

- PD-APJ-297 -

ISN 90243

CONSTRUCTION CONTROL SERVICES CORPORATION

**REPORT
ON
TRAINING PLAN
FOR
ACLU/CCSC
STAFF**

FINAL DRAFT

September 1991 - March 1993 Period

Project #306-0205

August 26, 1991

73E Abdara Road, University Town, Peshawar, Pakistan.

FOREWORD

The Afghan Construction and Logistics Unit has been active since its inception in 1988 in providing transport for repatriation of Afghan refugees and for carrying essential commodities to aid in their resettlement in their home areas. To facilitate this task ACLU repaired and rebuilt war-damaged roads and bridges in the liberated areas of Afghanistan.

In the summer of 1991 ACLU was reorganized to focus primarily on repair, rehabilitation and up-grading of war-damaged and/or neglected secondary roads and to propose alternate routes so that motorized transport can more readily serve relatively inaccessible areas. The reorganized ACLU is envisaged to be a parastatal NGO which should eventually develop into a commercial Construction/Consultation Corporation. To meet this evolving mission of ACLU, during August 1991, training and human resource consultants were invited to develop a comprehensive training plan for the next eighteen months.

This paper presents a training plan for meeting the training needs of the currently employed and proposed staff of ACLU.

The consultants were assisted by the COP and resident staff of CCSC and the G.M. and the team of managers and department heads of ACLU throughout the process of developing this plan. It is our hope that with the implementation of this plan ACLU will be able to develop a pool of talented people who can carry out the mission of ACLU as it does its part in reconstruction of a free and democratic Afghanistan.

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EXECUTIVE SUMMARY

- o Recognizing the importance of training to ensure the continued evolution and long-term viability of the Afghan Construction and Logistics Unit as a parastatal NGO, short-term consultants on training and human resource development were appointed in August 1991 to develop a detailed training program inclusive of assessment of training needs of each section of ACLU; personnel proposed for training; type, nature and duration of training; and proposed sites and agencies providing training.

- o The training plan covers a period of eighteen months through December 1992.

- o ACLU's reorganized structure consists of a Headquarter (Administration and Management), and Engineering Department (Road and Bridge Design, Estimating and Scheduling, and Quality Control), a Construction Department with four Construction Units and a Maintenance Unit yet to be organized, an Equipment and Maintenance Department (Maintenance, Equipment Control, Logistics and Warehouse), a Surveying and Mapping Department, a Project Planning and Development Department and a Special Projects Department to conduct the Afghan Road Conditions Survey (ARCS).

Training needs of each department of ACLU were assessed through interviews with key personnel of ACLU and CCSC, review of documents related to qualifications and previous work experiences of managers, engineers, technicians and the support staff and other documents like the annual implementation plans, quarterly reports and the report on reorganization of ACLU.

- o The proposed training plan is designed to achieve specific short-term objectives and long-term goals to enhance the cognitive, operational and managerial skills of the employees, improve the efficiency and effectiveness of the total pool of talent, policy-making, managerial and operational, to keep the overall organization vibrant and productive to meet the evolving challenges and to anticipate the emerging opportunities.

- o The levels and varieties of training needed to meet the assessed needs a concerted effort has to be made to:
 1. Improve the technical, professional, operational and managerial skills of individual employees of ACLU,
 2. Enhance the project organization and management skills of the engineers, managers and department heads at the ACLU Headquarters and at the project sites,
 3. Develop policy-planning, administrative and implementation skills of the management team at the ACLU Headquarters so that collective decision-making for project planning and management could be effectively undertaken.

In order to accomplish these three goals it is essential to include in the training program all the employees of ACLU. Some will need orientation to ACLU's organizational structure and policies. Others will need to develop specific technical/vocational skills. The managers and policy makers will be trained to work as a team, develop the participatory decision-making skills to collectively formulate organizational policies, work plans, implementation paths and assessment and evaluation of results achieved.

- o It is recommended that a training coordinator be appointed to schedule training activities, select the appropriate personnel and monitor their progress with the assistance and cooperation of the providing agencies. The training coordinator shall also make contacts with other local and regional providing agencies and consultants to arrange specific elements of the training plan.

- o It is envisaged that for technical/vocational training the various O/AID/Rep financed institutions and agencies in Peshawar will be used as primary providers. IRC, VITA and UNO have the potential to provide for most of the job-specific training needs. They are also willing to develop other programs that they do not offer at the moment in consultation with CCSC staff and make them available to other Afghan agencies involved in various reconstruction activities.

- o Pakistani Universities of Engineering at Peshawar, Taxila and Lahore, The Allama Iqbal Open University, Islamabad and a select group of local consultants and construction contractors could provide other services and training seminars, workshops and refresher courses to meet the objectives of the training plan.

- o A small group of no more than three engineers/managers from the construction/engineering departments may be sent to an appropriate work-site in the United States building similar kinds of roads and bridges that are being built by ACLU staff and crews in Afghanistan.

- o A critical need of ACLU is management training of its front-line administrators. It is recommended that a special emphasis be given to developing pro-active management skills of the key personnel of ACLU. A Local Consultant can be contracted to develop and offer the modular workshops for OPR, MSD, PMS and SSD as outlined in report.

- o It is desirable to develop computerized perpetual inventory systems for the automotive and construction materials warehouses. Suitable training of the ACLU Staff in development and utilization of such a system is necessary.

- o The audio-visual laboratory of ACLU ought to be strengthened to produce public relations material, documentary evidence of work completed and short training and demonstration materials for the in-house training of technical-vocational staff. The technicians currently involved ought to be trained in various aspects of A.V. Production.

- o Systematic evaluation and monitoring of the training plan over the entire 18-month period is a necessity. Monthly monitoring of the training programs and the participants must be done by the local training consultant and reports sent to GM, ACLU, COP, CCSC and the expatriate training consultant. A comprehensive review of training activities undertaken during September-December 1991 ought to be done by the expatriate consultant during December 15th - January 15th, 1992.

An annual comprehensive evaluation of the training program to be done by the local and expatriate consultants is recommended for July 1st - August 20th, 1992. Constraints, if any, could be identified and a more refined training program for the next six month period could be developed. Performance in training programs could be considered as one measure of job assignment and career advancement in the organization.

- o It is recommended that a sum of \$289,000 be budgeted to cover the costs of the training program during 1991-92 fiscal year. This is a slight increase over the \$259,000 that had been recommended for training in the 1992 projected budget.

ACRONYMS USED IN THIS REPORT

ACLU	Afghan Construction and Logistics Unit
AID	Agency for International Development (US)
AID/AFGHANISTAN	(See O/AID/Rep)
AIG	Afghan Interim Government
ARCS	Afghan Road Condition Survey
ARDA	Afghan Rural Development Agency
ATTC	Afghan Technical Training Center
CCSC	Construction Control Services Corporation
CEP	Commodity Export Program
CON	Consultant
DOD	Department of Defense (US)
ESSP	Education Sector Support Project
GOP	Government of Pakistan
IDA	Institutional Development Associates - Local Management Con.
IRC	International Rescue Committee
MTP	Manpower Training Program
NGO	Non-Government Organization
NWFP	North-western Frontier Province
O/AID/Rep	Office of the AID Representative (for Afghanistan)
PP&D	Project Planning and Development Department
S&M	Surveying and Mapping Department

T/A Technical Advisor

UNO University of Nebraska at Omaha

UNOCA United Nations Office of Coordinator for Afghanistan

USG United States Government

VITA Volunteers In Technical Assistance

VOLAG Voluntary Agency

I. ACLU AND ITS EVOLVING MISSION

The Afghan Construction and Logistics Unit (ACLU) was set up in 1988 to provide transport services to Afghan refugees returning to their homeland as a result of the signing of the Geneva Accord on Afghanistan and to deliver to them essential commodities needed through the transition to self-sufficiency. To facilitate these twin tasks ACLU was also to repair the war-ravaged roads and bridges. Since the inception of the project through July 1991, 482 convoys of 3479 trucks carried over 20,000 metric tons of commodities into Afghanistan, which is a Herculean effort given the hostile and unsettled environment then and still prevailing in Afghanistan. As the project evolved, the ACLU trucks and equipment were able to drive to location that other transporters were unable or unwilling to reach. The ACLU trucks, besides carting humanitarian relief commodities, supported the construction function by hauling materials, supplies and equipment to locations difficult to reach. From the beginning ACLU has been operating as a non-government (NGO) parastatal organization in Pakistan with the tacit approval of Government of Pakistan (GOP) and has been financially underwritten by USAID/Afghanistan.

The Construction Control Services Corporation (CCSC), an 8(a) firm, has been the technical assistance Contractor operating under Contract #306-0205-C-00-9372-00 to provide technical assistance and advisory support. The CCSC, Peshawar team, consists of four long term expatriate advisors, one locally hired expatriate, and twenty two local support staff. Short-term consultants are brought in as needed. Working at a feverish pitch the CCSC advisors set up an efficient organization at the headquarters for both CCSC and ACLU, departments of Transportation Logistics (TPT) and Construction and Engineering (CED) were established and staffed, and the trucks started to roll. The TPT department devoted considerable time and energy to set up units for logistics and warehouse, maintenance support, operations and auto technology training. The Construction and Engineering functions were organized around an Engineering Department to plan, design and supervise Construction of roads and bridges. Actual Construction was to be done through one bridge Construction Unit and three road Construction Units.

Currently ACLU has about 825 employees, approximately half are involved in the four Construction Units, sixty engineers, technicians and support staff are in the Engineering and Project

Planning Department, 250 are assigned to the Equipment & Maintenance department, and 39 employees are at the headquarter of the organization providing management and administrative services.

In the summer of 1991 a review of ACLU, its organizational structure and nature of its mission was undertaken which led to a redefinition of the mission and development of an organizational structure more suited to accomplish the task. The commodity and refugee transport activities of ACLU have been terminated.

The newly organized ACLU is to focus on repair, rehabilitation and upgrading of the war-damaged and/or neglected secondary routes and to propose and build some alternate routes so that motorized transport can more readily serve relatively in-accessible areas.

The appended organizational chart highlights the reorganized structure of ACLU. The headquarters shall consist of an Administration and management team headed by the General Manager and will be guided in formulation of policy by a five-member advisory committee of experts. The ACLU HQ shall have an Engineering Department including four sections of Road Design, Bridge Design, Estimating and Scheduling and Quality Control; a Construction Department with four Construction Units; an Equipment and Maintenance Department with four sections of Maintenance, Equipment Control, Logistics, and Warehouse; a Project Planning and Development Department to develop the feasibility details (costs, time and effort needed and socioeconomic benefits) of each proposed project and submit prioritized lists of projects to the GM and the Advisory Committee every month; a Surveying and Mapping Department to assist the Engineering and Construction Departments in appropriate site selection through field reconnaissance; and a new department called Afghanistan Road Conditions Survey (ARCS). This new department has been recently approved by US AID/Afghanistan to eventually survey the conditions of all 23000 Km of roads in Afghanistan. The survey will be done in phases. Initially a Comprehensive Survey Conducting System and detailed standardized procedures for data gathering will be developed and field tested in the liberated areas of Afghanistan. For the time being the personnel involved in the Planning and Development and Surveying and Mapping Departments will be utilized to perform these tasks. Gradually additional qualified staff will be added and trained to gather the data and consolidate it for future road repair and reconstruction activities. Eventually ARCS staff

shall include Afghan Civil Engineers specialized in surveying, mapping and road building, Afghan Survey Technicians to record the data, and data processing specialists at the headquarter to accumulate, tabulate, display and correlate data in a variety of useable forms. The staff will need to be trained in modern surveying techniques as well as data processing techniques using the Plotter/Mapper Software.

Under the reorganization plan ACLU will continue to be advised by USAID/Afghanistan through a contract with a US firm (CCSC) and guided by an Advisory Committee of Afghan experts. CCSC will continue to provide technical assistance and advisory support through its full-time expatriate staff of Chief of Party, Administrative and Finance Manager, Senior Civil Engineer, Maintenance and Construction Specialists and Administrative assistant and computer trainer. Short-term expatriate consultants in Civil Engineering, Surveying and mapping, training (monitoring and evaluation) and information processing Specialists will be available to augment the longer term staff.

II. PURPOSE, SCOPE AND METHODOLOGY

A. PURPOSE AND SCOPE:

Recognizing the importance of training to ensure the continued evolution and long term viability of the Afghan Construction and Logistics Unit as a parastatal NGO, a short term consultant on training and human resource development was appointed in August 1991 to develop a detailed training plan inclusive of assessment of training needs of each section of ACLU, personnel proposed for training, type, nature and duration of training, and proposed sites and agencies providing training. The training plan is to cover a period of eighteen months through fiscal year 1992. It is envisaged that for technical/Vocational training various O/AID/REP-financed institutions and agencies in Peshawar will be used. For other specialized managerial needs local, in-country and regional resources could be used to provide on-site, hands-on training. In some exceptional cases 60-90 days work experience with a selected U.S. county road building department specializing in gravel surfaced mountain roads could be provided. Short term Pakistani, Afghan and in exceptional circumstances, expatriate consultants could be used to provide specially focussed and topical training opportunities to ACLU engineers, technicians and other staff.

The plan should include a detailed implementation schedule and a regular, systematic process of formal assessment and evaluation of training on a 1-3-6 month basis. An end of the year evaluation to determine progress and identify constraints if any towards achieving the objectives ought to be included in the plan.

B. METHODOLOGY:

The consultant spent the first ten days after arrival in Peshawar in familiarizing himself with the organizational structure, existing and envisaged, of ACLU/CCSC through a careful study of quarterly reports, operational procedures and policies and the annual implementation plans of both CCSC and ACLU. The review of literature was supplemented by personal visits to ACLU/CCSC headquarters, Trucking and Equipment yard, Warehouse, Quality Control Lab, Construction/Logistics set up and the Afghan Technical Training Center in Hayatabad.

Personal interviews were held with Engs. Karim, Hamidi, Niaz, Yousaf and Najimi regarding their perceptions of the training needs for ACLU staff. All of these gentlemen were very cooperative and forthcoming in identifying the specific training needs to enhance the organizational efficiency and productivity of ACLU. CCSC expatriate staff was also frequently consulted to seek their views on the present and future training needs.

Eng. Karim provided the names, professional qualifications and job assignments of the engineers and technicians within each department of ACLU (appendix 9). Some department heads provided more specific lists of training needs of staff in their respective departments.

The consultant was also briefed by the staff of CCSC on the operational relationship between CCSC and ACLU. The Chief of Party, Mr. George L. Scott has a unique perspective since he has been involved with the project from its very inception and he gave a thorough briefing about evolving relationship between CCSC and ACLU. Mr. Jim Winslow, Acting Chief of Party and advisor O & M, has been actively involved in the development of the technical training center, besides his other duties, to meet the needs of training mechanics and operators in the automotive and heavy equipment repair fields. He shared his experiential perspective on the training needs for Equipment and Maintenance Department. Mr. Lou Cohen, the short term CCSC engineering advisor, provided a wealth of information on the training needs in the Engineering

Department. He has developed a working paper listing the immediate needs for specialized training of ACLU staff. In his words "The staff of ACLU consists of engineers and technicians who have had little or no opportunity to practice their profession during the past twelve years of war. Many of the Afghan engineers are graduates of accredited curricula and some worked a few years in building construction before being arrested, becoming mujahideen or becoming refugees. At any rate, they are not up to date, are inexperienced, or in need of refresher training to challenge their thought process and give them practical approaches to road and bridge design and construction". In his opinion some of the specialized courses needed by ACLU Engineers and technicians include:

1. Refresher Course in Road Design and Construction and in Engineering Management (IRC/CRTA, Peshawar)
2. Short courses in report writing , managing staff and conducting meetings, (IRC)
3. Operation and Maintenance of heavy construction equipment, (Pakistani dealers)
4. Estimating manpower, equipment and costs of projects, (Local consultant)
5. Principles of contracting, (CCSC civil engineer)
6. Technical English, (IRC/in house)
7. M.S.C.E. for quality control, (A.I.T, Bangkok)
8. Hydrology, soil mechanics, strength of materials and bridge design refresher courses, (University of Peshawar)
9. Origin/destination surveys and traffic counts, (local consultant)
10. CPM/PERT scheduling, (CCSC Civil Engineer)
11. ARCS, Survey (Consultant/IRC)
12. Principles of Road and Bridge maintenance, (Local Consultant)

13. Principles of Construction Project management (CCSC Civil Engineer)

The expatriate consultant on training was joined by a local consultant on management and human resource development during the second week. He had been actively involved in the development of the reorganization plan of ACLU. Collectively they did the need assessment and formulated the implementation strategy for proposed training plan.

The consultant also visited the following agencies and interviewed their staff soliciting information about the training resources they could provide to match the needs of the ACLU staff and also explored the history of their collaboration in the previous years.

1. VITA, Pakistan (AARP) O/AID/REP. Mr. Mir Muhammad Sediq Ashan, COP and Mr. Shirindil Safi, Director Training,
2. IRC, Dr. A. Waheed Hassani, Coordinator, Science and Technology Training,
3. UNO, Mr. Abdul Muqem Rehmanzai, Acting COP and Mr. Rahim Ghaznavi, Director, Manpower Training Program,
4. Institute of Educational Technology, Aliama Iqbal Open University, Islamabad, Mr. Javed Muhammad Kasuri, Director, Dr. Shaukat Ali Siddiqui, Director, Institute of Educational Research.
5. University of Peshawar, Faculty of Engineering, Civil Engineering Department.
6. Allied Engineering Services Ltd, Caterpillar Dealer in Pakistan.
7. Institutional Development Associates, (Pvt) Ltd. Management Consultants, Lahore.
8. Mr. Khalid Iqbal, Pakistan Administrative staff college, Lahore.
9. CAD-CAM consulting (Pvt) Ltd, Lahore, Computer aided design management and planning of Civil, Electrical and Mechanical Engineering Projects,

10. Punjab University Institute of Education and Research,
Lahore, Prof. Ehsan Ullah Khan.
11. Islamia College of Commerce, Peshawar University,
Peshawar, Prof. Rashid Ghouri, Acting Principal.

III. TRAINING NEEDS ASSESSMENT

In order to clearly define the goals and objectives of a well thought out training plan it is essential to find out from the participants and their managers their perceptions of training needs. It is also important to research the professional qualification and experiential background of the participants to identify specific deficiencies to be remedied. Using the twin techniques of interviews and review of professional background data provided by the ACLU management a profile of individual and institutional training needs was developed. Given the time constraint no attempt was made to use formal needs assessment instruments to assess levels of knowledge, skills and operational understanding of the managers, engineers, technicians or support staff. Since needs assessment, is an ongoing process which continues to take place throughout the training program it is important to regularly review the progress being made and fine tune specific elements of the training program.

List of specific training needs for ACLU/CCSC by department:

A. HEADQUARTERS:

<u>Type of Training</u>	<u>Providing Agency</u>
1. Effective Management of Human Resources	IDA Consultant
2. Effective Management of Fiscal Resources	Consultant, Local
3. Team Building: Integrative Management	IRC/IDA
4. Information Flow Charting	Computer Consultant
5. Record keeping: Electronic Data Processing	IDA/CAD/Cam/EMKYBEE Ltd.
6. Lotus 1-2-3/dBase/Spreadsheet	"
7. Computerized Perpetual Inventory System (W.H.)	"

9. Principles of Contracting	IRC
10. Applied Cost Estimation	IRC
11. Time Management	IDA
12. Management by Objectives	IDA
13. Report Writing and Documentation	P.Weerts/Cons.
14. Financial Procedures & Control	Consultant/In House
15. Conducting Productive Meetings	UNO
16. Staff Evaluation and Supervision	In House
17. Monitoring Procedures for Work Plan	In House
18. Quality Assurance	IRC/VITA
19. Technical English	P.W/VITA/UNO
20. Business Communication	P.W/UNO
8. ENGINEERING DEPARTMENT:	
1. English: Basic/Int./Adv./Tech	P.W/IRC/UNO
2. CAD Program	IDA/CAD.CAM Consultant
3. Management of Engineering Proj.	IRC/In House
4. Design and Application of Low Volume Roads/Bridges	IRC
5. Design and Application of Reinforced Concrete Structures	IRC/In House
6. Pre-stressed Concrete Systems	IRC
7. Engineering Economics	IRC
8. Soil mechanics and Design of Foundation	IRC

9. Strength of construction materials	IRC
10. Quality Control Procedures	IRC
11. Monitoring of Progress of Work	In House
12. Electronic Data Processing: Lotus 1-2-3/dBase/Autosketch	In House
13. Design and Fabrication of Pre-Cast Structures	IRC
14. Survey of Const. Materials	VITA
15. Decision-Making and Problem solving	IDA
C. PROJECT PLANNING AND DEVELOPMENT DEPT:	
1. Project Feasibility	VITA/IRC
2. Cost Estimation	CCSC Civ. Eng.
3. Techniques of Project Planning/Schedule	IRC
4. Project Management	IRC
5. Equipment Needs Estimation	In House/IRC
6. Time on Task	IRC
7. CPM Scheduling	In House
8. Manpower Estimation	In House
9. Principles of Contracting	IRC
10. Documentation of Data	Consultant, Local
11. Project Follow Up/Assessment	In House
D. SURVEYING AND MAPPING/ARCS DEPT:	
1. Developing Standard Survey Form	In House
2. Principles and Procedures of Road Survey	IRC
3. Numbering/Coding of Road Systems	In House

- | | |
|---|---------------------|
| 4. Use of dBase and Plotter and Mapper Computer Program (ATLAS) | Consultant |
| 5. Computerized Data Processing System of ARCS | Consultant |
| 6. Assessing Qualitative Condition of Roads and Bridges. | Civil Eng./In House |
| 7. Origin/Destination Surveys and Traffic Counts | IRC |
| E. EQUIPMENT AND MAINTENANCE DEPARTMENT: | |
| 1. Perpetual Inventory Control, Warehouse | Consultant |
| 2. Operating Heavy Equipment | Pak Dealers |
| 3. Principles of Equip Maintenance | ATTC/UNO |
| 4. Basic/Adv. Diesel Mechanics | UNO |
| 5. Basic/Adv. Automatic Electrical System | UNO |
| 6. Measurement/Calculation for Repair/Design | UNO |
| 7. Equipment Manager Training | UNO |
| 8. Introductory/Adv. Machining and Welding | UNC |
| 9. Head Mechanics (Foreman) Seminar | UNO |
| 10. Fabrication and Machine Tool Use | UNO |
| 11. Maintenance and Operation for Field Engineers and Managers. | UNO |
| 12. Equipment Managers Training | UNO |
| 13. Specialized Heavy Equip Maintenance Course | Pak. Dealers |
| 14. Cooperative Work Experience | UNO/ATP |
| 15. Trade Skills: Master Mason, Masonry, Steel Work in Construction, Welding. | MTP/UNO |

F. CONSTRUCTION DEPT:

- | | |
|--|---------------|
| 1. Construction Engineering (9 months) | IRC |
| 2. Concrete Fundamentals | IRC |
| 3. Pre-Stressed Concrete System | IRC |
| 4. Adv. Structures | IRC |
| 5. Soil Mechanics | IRC/VITA |
| 6. Hydraulic Stress | IRC |
| 7. Construction of Foundations | IRC |
| 8. Construction of Culverts | IRC |
| 9. Drilling and Blasting | Pak. Dealers |
| 10. Crane Operation | Pak. Dealers |
| 11. Earth Moving Techniques | In House |
| 12. Compacting | IRC |
| 13. Use of Front End Loaders | Pak. Dealers |
| 14. Operating Backhoe Equip. | " " |
| 15. Strength of Materials | IRC |
| 16. Quality Control Procedures | AIT Bangkok |
| 17. Work Schedule and Measuring Output
Daily, Weekly, Monthly Program Reports | In House |
| 18. M.S.C.E. Quality Control | A.I.T Bangkok |
| 19. Safety Procedures on the Construction Site | In House |
| 20. Internships: | |
| (a) Two weeks, on road/bridge construction
site in Pakistan. | |

(b) 60-90 days in the U.S	US Park Dist. Services
21. Perpetual Inventory Control System for Constructional Materials	In House
22. Allocation of Construction Resources	In House
23. Locating and Construction of Drainage Structure and Retaining Walls	In House

IV. TRAINING PLAN - A CONCEPTUAL FRAME WORK

A training program is designed to achieve specific short term objectives and long term goals to enhance the cognitive and operational skills of the employees, improve the efficiency and effectiveness of the total organization and to create the necessary pool of talent, policy-making, managerial and operational, to keep the overall organization vibrant and productive to meet the evolving challenges and to anticipate the emerging opportunities. ACLU is an organization in transition. It has a clearly stated mission, to build, repair and rehabilitate the network of secondary roads in Afghanistan in a cost effective manner. It has developed an organizational structure to undertake the road and bridge building activities. Approximately 200 Km of roads and a dozen bridges of various types have been built so far. Construction projects to be undertaken in 1991-92 include the following:

1. Completion of Arundu-Nawa Pass, Kunnar (111.5 Km plus 2 bridges)
2. Completion of Sarubi Road, Paktika (40 Km plus bridge)
3. Completion of repairs to Jaji Road, Paktiya (51 Km plus 2 bridges)
4. Completion of Toopkhana Road, Badakshan (Joint venture with CBR) (? Km.) **
5. Building Nuristan Agriculture Road, Kunar and Laghman (Joint venture with Madera) (30 Km)*

6. Rehabilitate multi-span culvert in Asadabad, Kunar (1 bridge)
7. Khost-Zurmat and Khost-Gardez Roads, Paktia connecting Kabul-Kandahar highway (35 Km)*
8. Miramshah-Khost Road, Paktia (52 Km plus 2 bridges)*
9. Azra bridge, Paktia (20 m) and Gawi-Azra Road (5Km)
10. Khost-Orgun Road, Paktia and Paktika (? Km)**
11. Gawi-Hesarak, Paktia, Logar, & Ningrahar (? Km)**

* Because of lack of survey, the length of these roads is approximate.

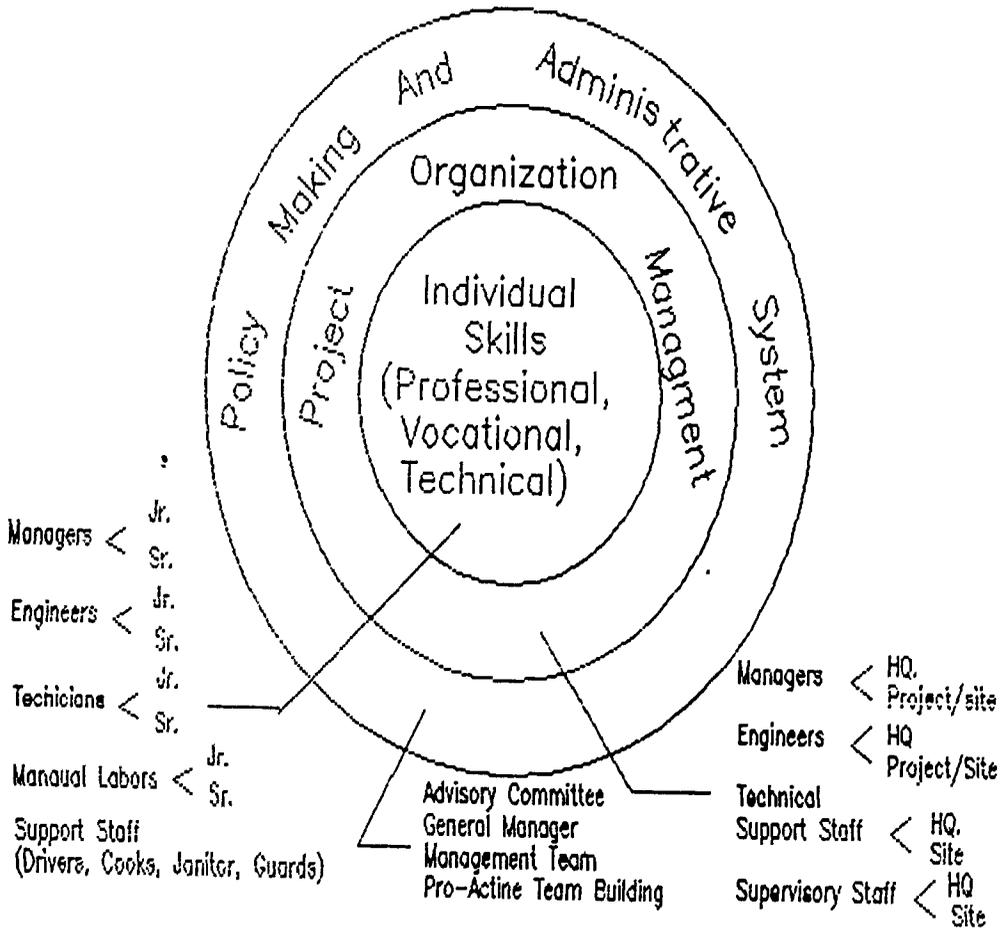
** These roads are not yet surveyed. Some are highest priority and others must be deferred unless number of construction units is increased.

In addition to these construction projects ACLU has been assigned the task of surveying the conditions of roads in Afghanistan so that future, more comprehensive road construction and rehabilitation plans could be developed. This non-project-specific activity will need additional staff with appropriate qualification and special job-related training in modern techniques of road survey and effective utilization of newer tools of data gathering, tabulation and storage for later use. Finally the training plan must include developing expertise at the headquarters to build ACLU into a self-reliant, private sector or semi-government corporation running on a commercial basis to provide Engineering/Construction Services to the future democratic government of Afghanistan or to outside donor agencies. Its various departments like Maintenance and Operations, Engineering, Surveying and Mapping can enter into joint ventures with foreign construction firms or sub-contract with other Afghan agencies to carry out small construction projects. ACLU has the potential to eventually become a commercial Consulting/Construction Corporation.

A. LEVELS AND VARIETIES OF TRAINING:

An active Training Plan must pay attention to the levels and varieties of training deemed to be necessary by the management and staff of the organization in order to accomplish its goals and objectives. The following diagram describes the levels and varieties of training needed by ACLU/CCSC staff:

LEVELS AND VARIETIES OF TRAINING



ACLU/CCSC collaborative relationship has been evolving. It is generally perceived that gradually more responsibility for project planning and implementation has to be passed on to ACLU team and CCSC staff will increasingly provide the technical advice to facilitate this transition during the next eighteen months, therefore, a concerted effort has to be made to:

1. Improve the technical, professional and managerial skills of the individual managers, engineers technicians and manual laborers on ACLU staff.
2. Enhance the project organization and management skills of the managers, engineers and the technical support staff both at the ACLU headquarters and at the project site in the field.
3. Develop the policy planning and administrative/implementation skills of the management team at the ACLU headquarter so that collective decision-making for project planning and management could be effectively undertaken. At this level the emphasis is more on building management teams rather than developing individual skills.

If an organization is to be more - rather than less - than the sum of its parts it is important that persons responsible for achieving its objectives work together as a team in a mutually reinforcing manner. If well trained managers and policy planners work in isolation, their individual responsibilities might be formulated and implemented in a logically consistent yet mutually exclusive manner, hence to the detriment of the overall success of the organization. It is, therefore, essential to train the managers to work as a team, develop the participatory decision-making skills so that they could collectively formulate specific activities and tasks to be performed by the organization and assign those tasks and activities to each other based on a clear, common understanding of the implementation paths and individual and collective accountability.

B. BASIC ASSUMPTIONS OF THE TRAINING PLAN:

Adults learn differently than children. While children learn through rote memorization and repetitious drill, adults must be able to relate learning materials to their experience. Both models of learning of the child and the adult can be incorporated in the proposed training plan. Adults learning new skills for

the first time in their lives also use the repetitive drill and memorization mode. Training and development of manual skills demands a simple methodology including verbal instructions-demonstration-drill and practice, and conceptualization. For more advanced levels of manual and conceptual training the following principles must be observed:

- o Learning is most effective when the skills and concepts are relevant to the task,
- o Learning is more effective when it is applied immediately through drill and practice,
- o Learning is most effective in active rather than passive environment,
- o Learning is most effective when it is compatible with and contingent upon individual's experiences,
- o Responsibility for learning belongs to the participant, not the trainer, hence must be based on self motivation,
- o The training process involves both teaching and learning. A custom-designed program gives the trainer the opportunity to learn more about the individual's and the organization's needs hence the need for a flexible strategy and continuous monitoring,
- o Training plan envisages a variety of training formats including:
 - One day workshops
 - Week-long workshops, seminars
 - 2-4-6-10-12 week courses on specific topics
 - Site-visits for operational training and internship, local, national, regional and the U.S.
 - Semester-long courses on Highway/Bridge Construction Engineering, IRC.
 - Refresher Courses
 - Management Training Modules
- o Ideally the training plan should include the whole staff of the organization and provide ownership and belonging and organizational loyalty,

- o Training for the individuals should focus on remediation of deficiencies, refinement of skills already present and development of new skills of professional, technical and personal nature,
- o Selection of candidates for various training programs should be done according to clearly spelled out criteria to avoid the possibility of making a king "Professional students" out of some.

V. IMPLEMENTATION STRATEGY AND ACTION RECOMMENDATIONS

The levels and types of training included in the training plan calls for a comprehensive implementation strategy. The professional, technical, vocational and managerial skills development, enhancement and refinement for all the ACLU personnel will demand using a variety of formats and providing agencies.

The enclosed breakdown of ACLU/CCSC Staff categories has been developed from ACLU/CCSC documents. The plan calls for matching training opportunities with the needs of the individual as a professional and those of the organization within its various Departments and Units. Even though twenty-two job-specific groups have been identified in the table covering all the 899 ACLU and 40 CCSC employees it is possible to scale down the number of groups to cover managers, Senior and Junior, Technicians, Senior and Junior, Professional and Administrative Support Staff, and Manual Workers. For all categories of personnel the training plan calls for job specific training, organizational loyalty and work ethic training and for the Managerial Staff it calls for organizational and managerial skill development activities.

The following is a break down for the ACLU/CCSC Training Plan for 1991-92:

CCNY/ACLU - TRAINING PROGRAM 1991-92
STAFF CATEGORIES

Group	Total	Head Quarter ACLU	CCSC	Engineering Project Planning Survey and Mapping Departments	Equipment and Maintenance Department	CONSTRUCTION DEPARTMENT				
						Bridge Unit	Construction Unit # 1	Construction Unit # 2	Construction Unit # 3	ARC'S
A : General Manager/AGM	2	2	1	-	-	-	-	-	-	-
B : Departmental head	7	2	4	3	1	1	-	-	-	-
C : Engineer-Senior	9	-	1	5	-	1	1	1	1	1
: Engineer-Junior	12	-	1	2	-	1	3	3	3	3
D : Unit Leader/Assistant : Unit Leader	8	-	-	-	-	2	2	2	2	2
E : Surveyor-Senior	3	-	-	3	-	-	-	-	-	-
: Surveyor-Junior	5	-	-	5	-	-	-	-	-	-
F : Administrative : Support-Senior	16	5	1	1	2	2	2	2	2	2
: Administrative : Support-Junior	30	7	-	2	5	4	4	4	4	4
G : Accounting : Support-Senior	3	3	2	-	-	-	-	-	-	-
: Accounting : Support-Junior	13	1	2	2	2	2	2	2	2	2
H : Warehouse Staff	7	-	1	2	5	-	-	-	-	-
I : Data Processing, : Audio Visual, : Draftsmen & quality : Control	7	4	-	3	-	-	-	-	-	-
J : Secretarial, Typing : Clerical Support : Technician A	19	4	5	4	3	2	2	2	2	2
K : Mechanic-Senior	32	-	-	10	14	2	2	2	2	2
: Technician A : Mechanic-Junior	41	-	-	3	27	2	3	3	3	3
L : Operator-Senior	31	-	-	-	-	4	10	10	10	10
: Operator-Junior	36	-	-	-	-	6	10	10	10	10
M : Electrician, Solder : Painter, Carpenter A : Painter-Senior : Painter-Junior	31	-	-	-	17	2	4	4	4	4
N : Supervisors-Senior	25	-	-	-	4	3	4	4	4	4
: Supervisors-Junior	27	-	-	-	4	5	6	6	6	6
O : Masons-Senior	28	-	-	-	-	4	8	8	8	8
: Masons-Junior	40	-	-	-	-	16	8	8	8	8
P : Labor	196	-	-	2	2	33	33	33	33	33
Q : Drivers & Co-Drivers	172	5	6	5	104	10	16	16	16	16
R : Guards	84	-	-	10	26	12	12	12	12	12
S : Cook, Baker & : Gardener	22	2	1	2	2	4	4	4	4	4
T : Painter, Tinsler, : Driller A : Explosive man	15	-	2	-	-	6	3	3	3	3
U : Janitorial	11	5	-	2	4	-	-	-	-	-
V : Other	5	-	4	2	-	-	1	1	1	1
	899	40	31	68	226	127	146	145	144	144

Accounting Support-Senior: Accountant, Junior Accountant, Head Time Keeper.

Accounting Support-Junior: Cashier, Assistant-Cashier, Time Keeper

Administrative Support-Senior: Liaison Managers, Procurement Specialist, Convey Administrator, Statistical Assistant, Construction Coordinator, Logistics Manager.

Administrative Support-Junior: Transport Supervisor, Assistant Transport Supervisor, Copiest, Translator, photographer, Dispatcher, Filing Clerk, Assistant Construction Coordinator, Assistant Logistics Managers.

Warehouse Staff: Warehouse Assistant, Fuel Attendant, Inventory Post Clerk, Stock Clerk, Used Store Keeper, Property Clerk.

Others: Doctors, Nurse, Tailor

A majority of job-specific training needs can be met through using USAID/Rep. financed providing agencies in Peshawar. Others can be done by local consultants and in-house CCSC Staff, particularly the expatriate Civil Engineer, the Manager/Advisor for Equipment and Maintenance and the Manager of Finance and Administration. A few will demand developing collaborative relationships with Pakistani agencies like equipment dealers, Universities of Engineering at Peshawar, Taxila, and Lahore and Selected Management Consultants.

Three specific providing agencies in Peshawar, funded by USAID/Rep, have developed credible reputation as providers of training opportunities to Afghan nationals. They are University of Nebraska, Omaha (UNO), the International Rescue Committee, Science and Technology Training Programs; and Volunteers in Technical Assistance (VITA). Appended to this report are lists of training opportunities. Their schedules for 1991-92 are not yet firmed up, but one can get a reasonable idea of the kinds of training opportunities these three can provide for the engineers, technicians and support staff. The details of training opportunities provided by VITA, UNO and IRC are plotted in the enclosed Annual implementation plan for technical training. * It is recommended that a training coordinator be appointed to schedule training activities, select the appropriate personnel and monitor their progress with the assistance and cooperation of the providing agencies. The training coordinator shall also make contacts with other local providing agencies and consultants to arrange specific elements of the training plan. IDA can be a good provider of this service.

The training plan calls for providing a select group of Senior Managers/Engineers opportunities for on-site internship of various durations to provide them the opportunities to gain hands-on experience, of road and bridge building. * It is recommended that 8 Engineers from the Engineering and Construction Departments be selected to work with their counterparts on bridge/road/retaining wall/culvert building sites in Pakistan for a 2-week period. Private construction contractors in Pakistan like McDonald Leighton, NasPak etc. can be contacted to provide this work-experience internship to the ACLU Staff.

* It is recommended that three Engineers/Managers from the Construction Department be sent to an appropriate work site in the United States building similar kinds of roads and bridges that are being built by ACLU Staff and Crews in Afghanistan.

This supervised internship of 60-90 days, through either a US Park District, County Roads/Highway Department or a Private Contractor will be beneficial in developing the professional vocational skills of the ACLU Managers/Engineers and give them the hands-on experience of scheduling, costing, contracting of work, in an American setting. It is a related expectation that these internship experiences will foster understanding of work-ethic and successful attainment of construction objectives within the contractual time frames. * It is recommended that one Quality Control Engineer be sent to the Asian Institute of Technology, Bangkok for M.S.C.E training for 4 months.

A. MANAGEMENT TRAINING PROGRAM:

The ACLU/CCSC Managers and Members of the proposed Advisory Committee need to become aware of the organizational policy planning procedures and develop and refine their managerial skills for ACLU to become a self-reliant commercial construction company. The training plan envisages the following series of workshops and seminars for the ACLU/CCSC Headquarters Managerial Personnel. These 1,2,3, and 5-day workshops are designed to provide training in Organizational Policy-Making, Managerial skills, Project Management skills, and Supervisory skills for Human and Fiscal resources available to the organization. Such a management training program can be a powerful means of achieving the following objectives:

1. Enhanced/clearer organizational awareness to identify problems and constraints that need to be addressed while developing ACLU programs and projects,
2. Generating sufficient commitment and ownership by the management teams towards achievement of organizational objectives,
3. Starting a process of team building and participative functioning throughout planning, implementation and evaluation of ACLU programs,
4. Developing and refining procedural, analytical and operational frame work so innovatively as to meet development goals of the organization,
5. Improving the capacity of ACLU's program and/or project teams to plan, manage, implement, monitor and evaluate all the phases of a construction project,

all the phases of a construction project,

During various phases of the training cycle for Managers e.g. needs assessment, training design, implementation and evaluation, keeping in view the background of Afghan participants use of a mixed approach is recommended whereby a trainer will be expected to act as facilitator, educator, coach and counsellor as necessary. However, primarily training efforts need to be based on Adult Learning Principles (Andragogical Methodology) and trainees should act more to facilitate training effort as a catalyst. All endeavors should be made to make the training experience experiential and participants centered for attaining maximum benefit. Therefore the training program for ACLU must adhere to the following factors:

1. Adult learning is something which cannot be done to or for people. It is done by them and it emerges from their own experiences. Theoretical and practical facilitator should stimulate and skillfully aid the process of learning.
2. Training is most effective when it facilitates learning by focusing on issues and problems that are relevant to the trainees personal and work life.
3. Training contents and process should focus more on application of what is learnt in training and should motivate Self-Directed Learning as an ongoing process of self growth.
4. Learning is meaningless if it is confined to the acquisition of facts and figures (knowledge only). Information must be supplemented by an understanding of why it is important and how it can be used productively. Effective training facilitates this process. Also enhancement of work ethic skills and building up positive, productive and proactive attitudes should be addressed by the training program.

Within varying degrees, individuals are unique, particularly in regard to the way in which they learn best. Therefore the trainer must use a variety of techniques and training aids to make the training experience interesting and effective. Some of these are: Climate Setting, Brainstorming and/or Discussions, Lecturettes, Flip-charts and handouts, Exercises, Case Studies, Role Plays and Role Swaps, Simulations, Games, Films, Slides and

Transparencies, and Training Instruments.

A general format of training should include a mix of approaches identified above broken down in the following manner of approximate time allocation:

- Theory - 20%
- Demonstration - 25%
- Skill Development Practice - 35%
- Application of Skill to Solve Problems - 20%

On the basis of initial assessment and review of ACLU's management training needs by the consultants staff of ACLU has been broadly categorized as below for management and supervisory training at different levels.

1. Management Group: Comprises General Manager, AGM, Departmental Group comprising, Heads, Senior Engineers. (Two groups of 15 each)
2. Supervisory Group: comprises of Unit Leaders, Assistant Unit Leaders, senior and semi-senior Administrative and Accounting Support Staff (* detail next page), Field Supervisors, Data Processing Staff, audio visual aid, Statistical Assistants, Photographers, Construction Coordinator and Senior Supervisors. (Three groups of 18 each)
3. Secretarial Support Staff: comprising of secretarial, typing and clerical assistants. (One group of 20)
4. Junior Support Staff: comprising of Drivers, Co-drivers, Cook, Baker, Gardener, Janitor, Guard (Ten groups of 30 each). It is planned to conduct Management Training Workshops as per the following schedule in the next year.

<u>Duration</u>	<u>Proposed Workshops</u>
3 days	Organizational and Policy Review (OPR) Workshop **
5 days	Managerial Skills Development (MSD) Workshop - Group I
2 days	MSD Review Workshop - Group I
3 days	Project Management Skills (PMS) Workshop-One selected

group.

5 days Managerial Skills Development (MSD) Workshop - Group II

2 days MSD Review Workshop - Group II

3 days Supervisory Skills Development (SSD) Workshop - Group I

3 days Supervisory Skills Development (SSD) Workshop - Group II

3 days Supervisory Skills Development (SSD) Workshop - Group III

3 days Secretarial and Clerical Supports (SCS) Workshop - One
group only.

1 day Junior Support Staff Dev. (JSSD) Workshop - Group I

1 day Junior Support Staff Dev. (JSSD) Workshop - Group II

1 day Junior Support Staff Dev. (JSSD) Workshop - Group III

1 day Junior Support Staff Dev. (JSSD) Workshop - Group IV

1 day Junior Support Staff Dev. (JSSD) Workshop - Group V

1 day Junior Support Staff Dev. (JSSD) Workshop - Group VI

1 day Junior Support Staff Dev. (JSSD) Workshop - Group VII

1 day Junior Support Staff Dev. (JSSD) Workshop - Group VIII

1 day Junior Support Staff Dev. (JSSD) Workshop - Group IX

1 day Junior Support Staff Dev. (JSSD) Workshop - Group X

41 days

Accounting and Administrative Support Staff is represented as
below:

Accounting Support-Senior: Accountant, Junior Accountant, Head
Time Keeper.

Accounting Support-Junior: Cashier, Assistant Cashier, Time
Keeper.

Admin Support-Senior: Liaison Managers, Procurement,

Specialists, Convoy Administrator,
Statistical Assistant, Construction
Coordinator, Logistic Manager.

Admin Support-Junior: Transport Supervisor, Assistant
Transport Supervisor, Copyist,
Translator, Photographer,
Dispatcher, Filing Clerk,
Assistant,

* Organizational and Policy Review (OPR) Workshop will be organized for one group comprising of Advisory Committee members nominated CCSC expatriates and senior General Manager of ACLU and all departmental Heads.

- o It is recommended that Mr. Haider Zaidi, of the Institutional Development Associates (Pvt) Ltd be contracted to develop these modular workshops and offer them to the groups of ACLU/CCSC headquarters Staff according to the enclosed implementation plan for Management Training. Brief outlines of these modules are appended to this report.
- o It is recommended that computerized inventory systems for the Automotive Workshop Warehouse and the Construction Materials Warehouse be developed to keep track of the inventory as well as to facilitate logistics for various construction projects. Under the supervision of CCSC expatriate staff a local consultant in electronic data processing should be hired to develop the system and to train the ACLU staff in using it.
- o It is recommended that the Audio-Visual Laboratory of ACLU be strengthened to produce a) public relations videos, b) documentary evidence of work completed and c) short training/demonstration materials for the in-house training of technical/vocational staff. Two technicians need to be trained in production, (filming, dubbing, and editing etc.) of videotapes. The Allama Iqbal Open University Department of Audio-Visual Technology has the trainers and the facilities to train the ACLU staff over a one-week period. It is recommended to arrange this program through the Director of the Institute.
- o ACLU has developed a well equipped quality control laboratory. Besides sending one engineer to the Asian Institute of Technology, Bangkok for M.S.C.E. training, it

is recommended that two Afghan technicians be trained to gather and report quality control data from the field.

B. ANNUAL IMPLEMENTATION PLANS:

For: Management Training
Internship Training
Technical Training for each Department of ACLU
Monitoring and Evaluation of Training Plan

See following six pages:

ANNUAL IMPLEMENTATION PLAN FOR INTERNSHIP TRAINING

Project Name: CEP-ACIU
 Project No.: 205-2225-0-00-5572-00
 Implementing Agency: CISC & ACIU

Activities by Project Components	Activity	Implementing Agency	Start Date	End Date	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Remarks
ACIU EQ. TRAINING																		
INTERNSHIP (USA)	1	US Project																
		Site																
INTERNSHIP (PARISIAN)	4	Prt. Const.																
		Projects																
ENGINEERING DEPT. TRAINING																		
INTERNSHIP (USA)	2	US Project																
		Site																
INTERNSHIP (PARISIAN)	4	Prt. Const.																
		Projects																
M.S.C.E	1	A.I.F																
		Sample																

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ANNUAL IMPLEMENTATION PLAN FOR TECHNICAL TRAINING

Project Title: CEP-ACLU
 Project No.: 585-0205-0-00-0572-00
 Implementing Agencies: USSC & ACLU

Activities by	Annual	Implementing	Date	Start	End	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Remarks
Project Categories	Target	Agencies	Begin	End	1	2	3	4	5	6	7	8	9	10	11	12			
ACLU HQ. TRAINING																			
Lead Eng. : Eng.	6	WHA	4 Weeks																
Lead Eng. : Tech.	15	WHA	4 Weeks																
Planning for Eng.	10	WHA	2 Weeks																
Eng. Tech. Tr.	15	WHA	12 Weeks																
Study of Working Course for Eng. & Tech.	15	WHA/US	10 Weeks																
Planning for Trg.	5	WHA	4 Weeks																
Field Monitoring	12	WHA	2 Weeks																
CPM Sched.	ALL	In House	1 day																
Est. MHP. EQUIP. Costs	ALL	In House	2 days																
Use of Hy. Syst.	10	Pak. Deals	2 days/Unit																
Equip. Mfr. Tech.	30	In House	2 days/Unit																
Earth Mfr. Tech.	30	In House	2 Weeks/Unit																
AUDIO-VISUAL	2	Inst. of Ec. Tech.	1 Week																
ACLU: organization	ALL	In House	1 day																
Organization																			

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ANNUAL IMPLEMENTATION PLAN FOR TECHNICAL TRAINING

Project Title: CEP-ACLU

Activities by	Annual	Implementing	Date	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Remarks
Project Components	Target	Agencies	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Equip. operations	20	VITA/USO	9/2	9/30											
IO & M Machinery	20	VITA/USO	9/2	9/30											
English	ALL	VITA/USO	3/29	12/5											
Tech. English	Eng. 3/7	VITA/USO	12	Weeks											
Skill & Basic Ass.	20	VITA/USO	6th	Week											
Field Monitoring	15	VITA/USO	2	weeks											
Mechanics Ic.	10	VITA/USO	3/15	9/27											
IO & M Equip. Tr.	10	VITA/USO	2	Weeks											
IO & M Jackkn	10	VITA/USO	4	Weeks											
Skill Courses for Technicians	30	USO	6-10	Weeks											
Pr. of Maint.	ALL	in House	2	days											
Surveying (basic)	4	USO	10	Weeks											
Mapping/Plotting	4	in House	4	Weeks											
Slid. Surv. Forms	2	in House	2	Weeks											
Pilot Study (local)	4	in House	3	Weeks											
Pilot Study (Afgh.)	5	in House	4	Weeks											
Data Process	4	in House	2	Weeks											
Surveying course	4	USO	10	Weeks											
Mapping/Plotting	20	in House	5	days											

Continued on next page 3/1/76

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ANNUAL IMPLEMENTATION PLAN FOR TECHNICAL TRAINING

Project Title: CEP-ACUG

Activity	Activity by	Project Components	Activity	Start Date	End Date	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Remarks
Prep. Inv. Cost (Warehouse)	4	Consult	4	Weeks													
English	ALL	1050/1150	10	Weeks course													
Report Writing	6	DEC	4	Weeks													
Est. of Contracting	6	DEC	5	Weeks													
Cost Estia.	6	DEC	6	Weeks													
S. S. P (Lotus)	10	1150/Cons.	4	Weeks													
Concrete Structures	4	DEC	4	Weeks													
Pre-Cast/Pre-str. Sl.	6	DEC	4	Weeks													
Str. Est. Materials	5	1150	6	Weeks													
Highway Design	3	DEC	5	Weeks													
Bridge Design	8	DEC	5	Weeks													
Soil Mech.	6	DEC	12	Weeks													
Eng. Economics	5	DEC	10	Weeks													
Hydraulics	5	DEC	10	Weeks													
Fluid Mech.	5	DEC	10	Weeks													
Pr. of Const. Proj Management	ALL	1150	2	days													
Person Manager	ALL	1150	2	days													
Still Dev. Course of ATTC	30-50	1150/1150															See ATTC & NTP Brochure
and NTP for 30-50 Technicians and selected craftsmen.																	

ANNUAL IMPLEMENTATION PLAN FOR MONITORING & EVALUATION OF TRAINING PLAN

Project Title: C2P-ACUP
 Project No.: 365-0205-C-00-5512-00
 Implementing Agencies: C2SC & ACUP

Actives by	Annual	Implementing	Date	:OCT	:NOV	:DEC	:JAN	:FEB	:MAR	:APR	:MAY	:JUN	:JUL	:AUG	:SEP	:
Project Components	:Begin	:End		1	2	3	4	5	6	7	8	9	10	11	12	:
MONTHLY EVAL.	: ALL	:LOCAL CONSULT:	5 days	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	: Submit monthly report to ACUP GM, C2SC CUP & Exec Consult.
3 MONTHS EVAL.	: EACH	:EVALY CONSULT:	12/15/91 1/15/92	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	: Submit report to ACUP/C2SC. Remove constraints.
6 MONTH EVAL.	: LOCAL	:CONSULT:	3/19	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	: Assess Success & to develop the next 6 months plan.
9 MONTH EVAL.	: EIPAT	:CONSULT:	7/5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	

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VI. ASSESSMENT AND EVALUATION

- o It is recommended that the training plan should have a regular and properly sequenced program of assessing and evaluating the results. Monthly monitoring of the training programs and the participants is recommended to be done by the local training consultant and the in-house staff of CCSC/ACLU. Reports of monthly assessment must be sent to GM, ACLU, COP, CCSC and the expatriate consultant on training.

The expatriate training consultant should be kept informed about the monthly progress reports and the schedule of various training activities.

- o It is recommended that a comprehensive review of training activities during September - December 1991 be done by the US training consultant in December 15 - January 15, 1992 period to evaluate the results of training program till then and plan the activities through June 1992 with the help of the local training consultant.
- o An annual comprehensive evaluation of the training program to be done by the expatriate training consultant and the local consultant is recommended during July 1 - August 20, 1992. Bottlenecks, if any, could be removed and a more refined plan of training for the next six-months could be developed.
- o A system of recognition and rewards for participants in the training programs ought to be developed by the local consultant. It is recommended that certificates of completion be issued to participants, suitable prizes awarded, and level of success be considered as one of the criteria of further advanced level training. This will become a good incentive for the participants.
- o It is recommended that a local training consultant be hired to work out the organizational, implementation and monitoring details of the training program, and conduct the management training segment of plan from an organizational development perspective. It is estimated that the local consultant will devote approximately 90 days to these activities.

VII. COST ESTIMATES

The project financial plan for fiscal year 1991 had budgeted a total of \$178,000 for providing training opportunities to the participants. No exact figures are available in the records to show how much of this money was actually spent during 1991-91. It is assumed that a fair amount of this money was spent on in-house vocational and technical training provided through ATTC.

The projected financial plan for fiscal year 1992 calls for a total amount of \$259,000 out of which \$122,000 was to be spent on in-house training and the rest for training in the US.

Given the nature of the proposed training program and the greater reliance on the local, regional and some US training opportunities and need for continuous monitoring, assessment and evaluation of training activities, it is recommended that the overall training budget in fiscal 1991-92 be slightly increased to a total of \$289,000. The in-house training shall be restricted to specific short-term activities conducted by the CCSC full-time expatriate staff.

A. TENTATIVE BUDGET, SEPTEMBER 1991-DECEMBER 1992:

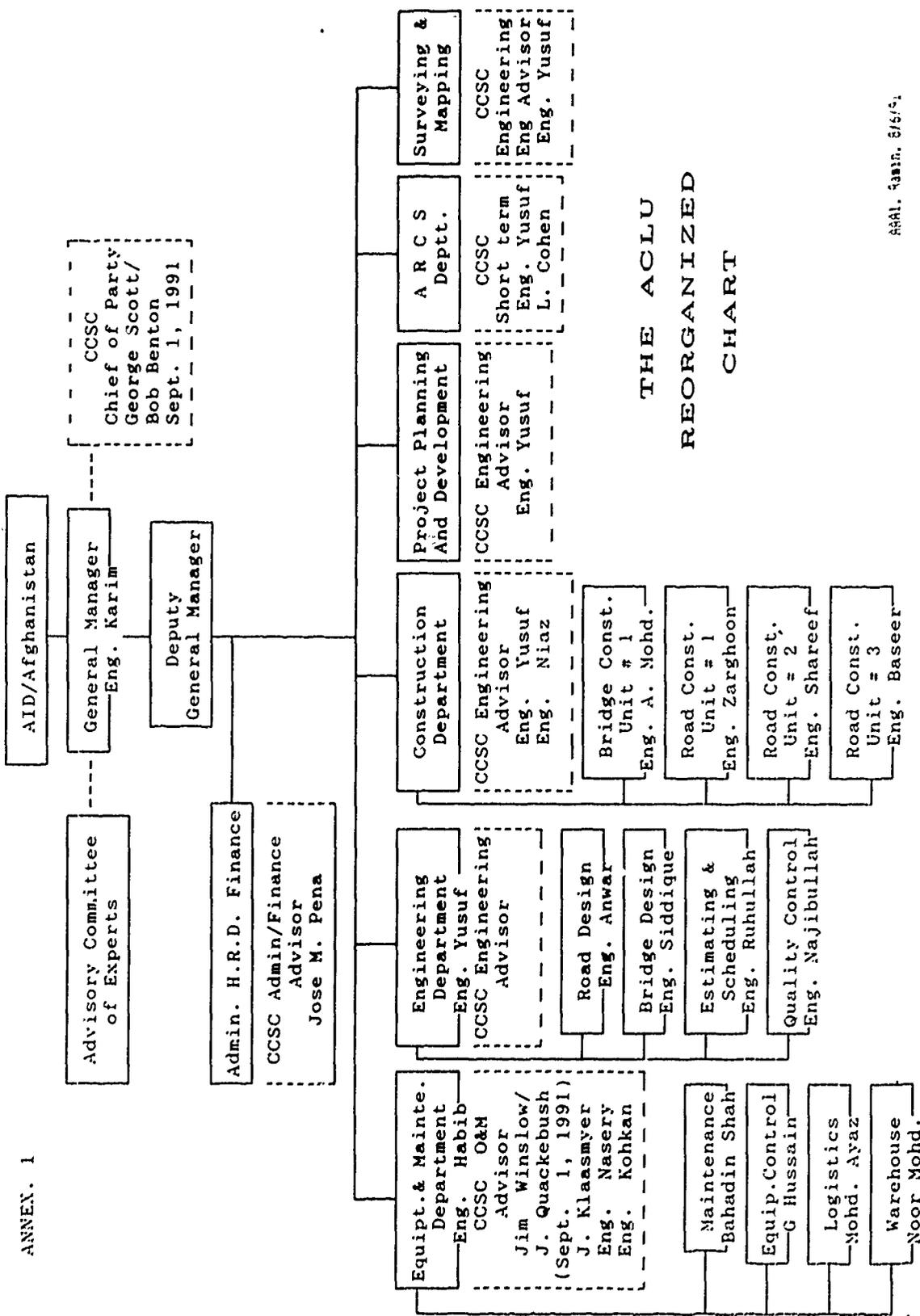
I.	Local Training Consultant/Coordinator	
	90 days @ \$145/day	\$13,050.00
	Travel/Lodging/Per diem	6,900.00
II.	Materials for Management Training Courses	16,200.00
	Fees for Training Venues	5,000.00
	Vocational/Tech. Training	20,000.00
III.	Other Consultants/Local hire	19,185.00
IV.	8 Local Interns	
	96 days @ 85/day	8,160.00
V.	4 Participants for 90 days Internship in the USA	68,000.00
VI.	1 Participant for 90 days at A.I.T, Bangkok	9,000.00
VII.	Local Hire Expat. Instructor for English	15,000.00

VIII. Evaluation/Monitoring by Expat. Training Consultant. Honorarium/Per Diem/Travel	26,500.00
IX. VITA/IRC/UNO	61,000.00
X. Miscellaneous	21,005.00
TOTAL:	<u>\$289,000.00</u>

VIII. APPENDICES

1. Organizational Chart of ACLU
2. Outlines of IDA Modules for Management Training:
3. VITA 1991-92 Plan of Training Program
4. VITA-CID-UW Training Program for Afghan Engineers and Technicians.
5. ATTC/UNO Voc. Tech. Training Program
6. UNO: Manpower Training Program
7. IRC: Refresher Courses for Construction Engineers.
8. Institute of Educational Technology, Allama Iqbal Open University, Islamabad.
9. List of ACLU Engineers, qualifications and training programs completed so far.

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THE ACLU
REORGANIZED
CHART

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991/92 YEAR PLAN TRAINING PROGRAM

Table G.

NO	COURSE NAME	COURSE COVERAGE	DURATION	DATES CONDUCTED	TRAINERS POSITION	NO	COST (Rs)	REMARKS
1	Operation & Maintenance of Dump Trucks	Familiarization with Equipment operation & Maintenance, including Controls, Mechanics, Safety & preventive Maintenance	2 weeks	May 19-30, 1991	Equipment Mechanics/ Operators	2	N/C	Training to be conducted by Construction Control Services Corp/Peshavar using available equipment prior to arrival of new equipment
2	Operation & Maintenance of Backhoe Loader	Same as above	4 weeks	July 7 Aug 2, 91	Equipment Mechanics/ Operators	16	N/C	Same as above
3	Mechanics Training	Basic daily services & machine operation 3.Units & dimensions	2 weeks	Sep 15-27, 1991	Equipment Mechanics/ Operators	27	Included in cost of equipment sent to be conducted by J.Deere	WEEK ONE-Combined training for both operators & mechanics in basic daily service & machine operator WEEK TWO-Split in 2 groups: -Mechanics section: Advanced system diagnostics for machines -Operator sec.: Advance machine operation
4	Orientation & Technical English	Terminology used in technical drafting surveying & mapping calculator & calculation weights & measures & engineering symbols. It include the English vocabulary & simple English styles & format	1 week	July to August 91	Sr. & Jr. engineers/ technician/draftmen/ ARR HORS/ Peshavar	20		University of Wyoming, Summer program
4a	Skill & basic assessment Technicians	1.Technical drafting 2.Calculator & Calculation 3.Unit & Dimension	1 weeks	"	"	20		

TR-P3

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NO	COURSE NAME	COURSE COVERAGE	DURATION	DATES CONDUCTED	TRAINEES POSITION	NO	COST (Rs)	REMARKS
4b	Fundamentals	1. Surveying 2. Mathematics 3. Trigonometry 4. Engineering Mechanics 5. Fluid Mechanics 6. Materials of construction	4 weeks	July to Aug, 1991				
5	English Training	Basic English Language	10 weeks	Sept 29 Dec 5 1991	ARR HQRS Staff	20		Training in basic English language vocabulary and grammars
6	Orientation & Technical English	Same as 5 above	2 weeks	January March 1992	ARR Directors/Engineers/Technician	34		University of Wyoming, Winter program
6a	Skills & Basic Assessment	1. Technical drafting 2. Calculator & Calculation 3. Units & dimensions	2 weeks	"				
6b	Fundamentals of Engineering for Engineers	1. Mathematics 2. Engineering Mechanics 3. Analysis of beams 4. Impact loading 5. Example & problems 6. Fluid mechanics 7. Impact loading 8. Route surveying	4 weeks	"				
6c	Fundamentals of Engineering for Technicians	1. Basic mathematics 2. Statics 3. Elements of surveying	4 weeks	"				
6d	Short courses for Engineers/Technicians	Engineers: 1. Roads & Bridges 2. Irrigation Technicians: 1. Project management 2. Cost estimation/specification 3. Maintenance		"				
7	Overseas Training	Training & Observation Tour in the Integrated Rural Development Projects USA and Third Countries	2 group 4 person each 3 weeks each	Oct/Nov. 1991	ARR Directors	8		Training location to be coordinated with OPAID/REP. Training/Orientation will be in States/Third Countries where integrated rural development projects are appropriate to ARR projects in Afghanistan. 1 group USA - 1 group Third Country.

Chart 8.

CONSOLIDATED ANNUAL IMPLEMENTATION PLAN (CAIP) - 91/92 YEAR PLAN
PROGRAM COMPONENT: TRAINING

Activity	91/92 Year Plan					Remarks
	AMJ	JAS	OND	JFM	AM	
A. IN-COUNTRY TRAINING COURSE						
1. Operation & Maintenance of Dump Trucks	**					
2. Operation & Maintenance of Backhoe Loader		**				
3. Mechanics Training		*				
4. Orientation & Technical English		**				
5. Skill & basic Assessment Technicians		**				
6. Fundamentals		**				
7. English Training		*	***			
8. Orientation & Technical English				***		
9. Skills & Basic assessment				***		
10. Fundamentals of Engineering for Engineers				***		
11. Fundamentals of Engineering for Technicians				***		
12. Short courses for Engineers/ Technicians				***		
B. OVERSEAS TRAINING:						
1. Training & Observation Tour in the Integrated Rural Development Project USA and and Third Countries			**			

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SCOPE OF WORK

**VITA-CID-UW TRAINING PROGRAM
FOR AFGHAN ENGINEERS AND TECHNICIANS**

Winter Session

OBJECTIVES

Objectives of the winter ten-week training program are as summarized in the SCOPE OF WORK for the summer session program submitted to VITA on May 24, 1991. The objectives are described in detail in the report submitted to VITA on April 11, 1991 by Drs. Lamb, Nasir and Smith. Briefly, these objectives are:

1. To ⁵⁵access the background of participants and to refresh and update previously learned English language and technical skills.
2. To refresh engineering fundamentals for engineers and technicians serving on the VITA staff.
3. To enhance the expertise of VITA engineers and technicians in specialty areas.

These objectives are incorporated in the response from VITA dated May 14, 1991. Specialty areas will include irrigation, roadways, and bridges for engineers; and cost estimating and project management for technicians.

PROGRAM OVERVIEW

Courses will basically follow the outline suggested by VITA on May 14, 1991 (Attachment Ia). These suggestions are similar to the program outlined in the report submitted to VITA by the University of Wyoming on April 11, 1991. A proposed course schedule and time frame are indicated in the attached figures (Attachment Ib).

The proposed winter session will begin on January 5, 1992, and will extend for 10 weeks for the engineering program and 9 weeks for the technician program. These times should be considered tentative, and may change depending upon the experience gained during the summer session.

COURSE CONTENT AND SCHEDULE

Orientation & Technical English and Skills & Basic Assessment

Orientation and technical English will be taught for two weeks by Mrs. Donna Fahrlander or Mr. Ted Werdan. Both are experienced ESL teachers. Mrs. Fahrlander is scheduled to teach ESL during the summer session, and Mr. Werdan recently completed and ESL program at the University of Wyoming for students from Saudi Arabia. It may also be possible to utilize a person already in Pakistan for this assignment, and CID is open to suggestions.

Dr. Dan Fahrlander, who is also an instructor for the summer session, will assist with the orientation and will teach sections on skills and basic assessments and mathematics. Dr. Fahrlander is an experienced technical educator and administrator. A second instructor is Dr. Rod Rozier. Dr. Rozier has an engineering background, and has elected to pursue advanced degrees in technical education. He has taught mathematics, science, and computer science for approximately 15 years. He is employed by the University of Wyoming Student Counselling Service. It would also be very beneficial for Eng. M.M.A. Sediq, Chief-of-Party of the VITA staff to participate in this phase.

Fundamentals of Engineering

The review of fundamentals of the engineering phase of the program will be taught separately for engineers and technicians. The courses will cover very similar information, but with emphasis appropriate to the participants. Drs. Nasir and Smith will teach this phase in the summer session and will also be available for the winter session. In addition, Drs. Reddy and Rozier, and Dr. John Nelson of Colorado State University, will also be available for this phase of the program. Dr. Nelson has served as Head of the Civil Engineering Department at CSU for the past five years, and has extensive experience in international education. He serves as CSU coordinator for this project.

It may also be beneficial to have members of the VITA staff, for example Eng. Sediq and Eng. Shah, participate. It is our opinion the Eng. Mohammed Shah of the VITA staff should, if possible, teach the surveying classes. The presence, knowledge, and assistance of Eng. Shah would be very beneficial to the participants and to the overall program. Drs. Nasir and Nelson can assist with the surveying classes.

Specialty Courses

All specialty courses will be taught to meet the specific needs and interests of the participants. A brief outline of each course is given in Attachment Ia, but minor changes may be necessary. Generally, participation of the VITA staff will be critical to the success of these courses.

The irrigation course (engineers) will be offered for two weeks. Dr. Reddy will be the instructor, with possible assistance from Dr. Smith.

As indicated previously, the instructor for roadways and bridges courses (engineers) will be selected from persons identified by the Federal Highway Administration. This will ensure that a person with appropriate experience is available for the course.

The course on project management (technicians) will be taught by Dr. Smith. He has developed a very thorough set of notes in this area and recently taught the course in Egypt. Eng. Sadiq and Eng. Shah would also be very helpful in presenting this course. The course is scheduled for one week, but may be extended depending upon the needs and interests of the participants.

Cost estimating can be taught by Dr. Nasir, Dr. Nelson, Dr. Smith, or preferably by a member of the VITA staff. Based on previous discussion, either or both, Eng. Sadiq and Eng. Shah are familiar with procedures used by VITA to prepare cost estimates. The course is scheduled for one week.

Program for Winter Session (10 weeks)

- I. Orientation & Technical English (64 hours, 2 weeks)
- II. Skill & Basic Assessment (64 hours, 2 weeks)
 - A. Technical Drafting:
 1. Preparation of engineering drawings
 2. Reading and interpreting engineering drawings
 - B. Calculator and interpreting engineering Drawings:
 1. Use of engineering calculator
 2. Concepts of accuracy
 3. Practical problems
 - C. Units and dimensions:
 1. Weights, volumes, lengths, etc.
 2. Conversion
 3. Scales
- III. Fundamentals of Engineering for Engineers (128 hours, 4 weeks)
 - A. Mathematics
 1. College Algebra
 - a. Algebraic variables
 - b. Solution of algebraic equations
 - c. Formulation of algebraic problems
 - d. Quadratic equations
 - e. Simultaneous equations
 - f. Graphs and curves
 - g. Examples and problems
 2. Trigonometry
 - a. Trigonometric functions
 - b. Trigonometric angles: degrees, radians, grads & mills
 - c. Law of sines and cosines
 - d. Examples and problems

B. Engineering Mechanics**1. Statics**

- a. Forces moments and associated units
- b. Resultant of a system of forces
- c. Resultant of moments
- d. Examples and problems

2. Mechanics of Materials

- a. Concepts of stress and strain
- b. Torsion
- c. Analysis of beams
 - 1) Moment of inertia
 - 2) Shear and moment diagrams
 - 3) Flexure of beams
 - 4) Restrained beams
 - 5) Reinforced concrete beams
- d. Impact loading
- e. Examples and problems

3. Fluid Mechanics (emphasis on water)

- a. Fluid flow
 - 1) Energy and momentum
 - 2) Measurement of fluid flow
- b. Open channel flow
- c. Examples and problems

4. Route Surveying

- a. Basic definition
- b. Geometry and type of sample horizontal curves
- c. Design method of curves
- d. Sections and volume of earth work
- e. Cost estimation

IV. Fundamentals of Engineering for Technicians (128 hours, 4 weeks)**A. Basic Mathematics operations, areas, volume and percentage****1. Basic Algebra**

- a. Algebraic variations
- b. Solutions of algebraic equations

2. Trigonometry

3. Definition of trigonometric functions
4. Right angle trigonometry
5. Applications and problems

B. Statics

1. Force and moments

- a. Definition of force and moments
- b. Resultants and equilibrium moments
- c. Estimation resultant forces
- d. Applications and problems

2. Materials of construction

- a. General
- b. Stones
- c. Brick
- d. Soil as construction material
- e. Aggregate
- f. Cement, lime and mortar
- g. Concrete
- h. Timber
- i. Steel
- j. Gabion

3. Hydraulics

- a. Fluid flow
- b. Open channel flow and tabular solutions
- c. Flow measurement
- d. Applications and problems

4. Elements of surveying

- a. Horizontal measurements
- b. Angles and direction
- c. Vertical measurement
- d. Examples and problems

V. Specialty Courses (1 or 2 weeks)

A. Irrigation (Engineers - 2 weeks)

1. Design of earthen canals and related structures
2. Design of irrigation water systems
3. River meandering and control

B. Roadways and Bridges (Engineers - 2 weeks)

1. Characteristics of roadbed materials
2. Classification and specification of roadbed materials

3. Roadbed subgrades
4. Compaction of roadbed materials
5. Roadway ditches and culverts
6. Design of foundation materials for bridge abutments
7. Roadway construction

C. Project Management (Technicians - 1 week)

1. Project identification and conceptualization
2. Evaluation of project feasibility
3. Preliminary and detail planning
4. Project execution
5. Resolving conflicts
6. Project evaluation

D. Cost Estimating (Technicians - 1 week)

1. Identification of project components
2. Estimating direct project costs
3. Contingency costs
4. Evaluation of project cost/benefits
5. Preparation of formal project costs reports

SCHEDULE - Winter Session

ENGINEERS

SUBJECT	Wk. 01 1/3/92	Wk. 02 1/12/92	Wk. 03 1/19/92	Wk. 04 1/26/92	Wk. 05 2/2/92	Wk. 06 2/9/92	Wk. 07 2/16/92	Wk. 08 2/23/92	Wk. 09 3/1/92	Wk. 010 3/8/92
ORIENTATION & TECHNICAL ENGLISH										
SKILLS & BASIC ASSESSMENT										
Technical Drafting										
Calculator and interpreting engineering drawings										
Units and dimensions										
FUNDAMENTALS OF ENGINEERING -- Engineers										
Mathematics										
College Algebra										
Trigonometry										
Engineering Mechanics										
Statics										
Mechanics of Materials										
Fluid Mechanics (emphasis on water)										
Route Surveying										
SPECIALTY COURSES										
Irrigation										
Roadways & Bridges										

Mornings

Afternoons

Mornings

Mornings

Afternoons

SCHEDULE - Winter Session
TECHNICIANS

SUBJECT	Wk. 01 1/5/92	Wk. 02 1/12/92	Wk. 03 1/19/92	Wk. 04 1/26/92	Wk. 05 2/2/92	Wk. 06 2/9/92	Wk. 07 2/16/92	Wk. 08 2/23/92	Wk. 09 3/1/92	Wk. 10 3/8/92
ORIENTATION & TECHNICAL ENGLISH	[Solid black bar]									
SKILLS & BASIC ASSESSMENT	[Solid black bar]									
Technical Drafting	[Solid black bar]									
Calculator and interpreting engineering drawings	[Solid black bar]									
Units and dimensions	[Solid black bar]									
FUNDAMENTALS OF ENGINEERING -- Technicians	[Solid black bar]									
Basic Mathematics	[Solid black bar]									
Basic mathematics operations, areas, volume and percentage	[Solid black bar]									
Basic Algebra	[Solid black bar]									
Trigonometry	[Solid black bar]									
Applications and Problems	[Solid black bar]									
Statics	[Solid black bar]									
Force & Moments	[Solid black bar]									
Materials of Construction	[Solid black bar]									
Hydraulics	[Solid black bar]									
Elements of Surveying	[Solid black bar]									
SPECIALTY COURSES	[Solid black bar]									
Project Management	[Solid black bar]									
Cost Estimating	[Solid black bar]									

BUDGET WORKSHEET -- PRELIMINARY

WINTER SESSION

ESTIMATED BUDGET

SALARY	Annual	Daily	# work days	SUBTOTAL
Overseas				
Orient. & Tech. English	\$40,000	\$154	10	\$1,538
Skills & Basic Assessment	70,000	269	12	3,231
Fundamentals of Eng. -- Engineers	70,000	269	22	5,923
Fundamentals of Eng. -- Technicians	70,000	269	22	5,923
Irrigation	70,000	269	11	2,962
Roadways & Bridges	70,000	269	11	2,962
Project Management	70,000	269	6	1,615
Cost Estimating	70,000	269	6	1,615
Total Overseas salaries				25,769
On Campus (prep. & travel time)				
Orient. & Tech. English	\$40,000	\$154	8	\$1,231
Skills & Basic Assessment	70,000	269	8	2,154
Fundamentals of Eng. -- Engineers	70,000	269	12	3,231
Fundamentals of Eng. -- Technicians	70,000	269	12	3,231
Irrigation	70,000	269	4	1,077
Roadways & Bridges	70,000	269	8	2,154
Project Management	70,000	269	2	538
Cost Estimating	70,000	269	6	1,615
Administration (Smith/UM)	77,000	296	15	4,442
Secretarial support, UM	17,000	65	10	654
Administration (Haleem/CSU)	70,000	269	5	1,346
Secretarial support, CSU	17,000	65	2	131
Total On-Campus salaries				21,804
TOTAL SALARIES				\$47,573
FRINGE BENEFITS	0	24%		11,418
TRAVEL & PER DIEM				
International Travel	6	trips @	\$3,200	each
Per Diem - Pakistan	152	days @	29	each
Per Diem - Staveover	12	days @	210	each
Misc. travel (taxi, etc.)	6	trips @	50	each
TOTAL TRAVEL & PER DIEM				26,884
OTHER DIRECT COSTS				
Communications				1,500
Reproduction (class materials, etc.)				2,000
Materials	1000	each x 33 sets		33,000
Shipping (books & materials)				1500
DBA insurance	3.44%	of overseas salaries		886
TOTAL OTHER DIRECT COSTS				38,886
TOTAL DIRECT COSTS				\$124,761
INDIRECT COSTS				
Univ. City Indirect - Off-campus rate @ 26%				23,058
CID @ - @ 10.75%				13,412
TOTAL INDIRECT COSTS				\$37,270
TOTAL - Winter session				\$162,031

NOTES:

Including in budget items will be provided by proposal and is not included in this budget.

4/9

A.T.T.C.

AFGHAN

TECHNICAL

TRAINING

CENTER

Sponsored By: A.C.L.U
C.C.S.C
U.S.A.I.D

INTRODUCTION

The Afghan Technical Training Center (ATTC) has been created by the Afghan Construction and Logistic's Unit (ACLU) to address the needs of training in the Automotive and Equipment repair fields.

There are many skilled Afghans working in the mechanical repair fields. However 12 years of war has left them totally isolated from the technological changes and updates that have occurred in this field.

Batteries are maintenance free, electronics are solid state, engines and other components are constructed of new technology materials that require stricter more precise assembly.

Many men who possess a high aptitude ^{استعداد} for mechanics can teach themselves through time in a trial and error process. The problem with this is that with today's inflated costs trial and error can be extremely expensive.

The second problem is that while these men struggle to learn what has changed over the last decade technology continues to advance rapidly leaving them still further behind.

The purpose of the ATTC is to assist these men to catch up with the technology of their chosen field so that they can better assist the rebuilding of Afghanistan.

THE PROGRAM

ATTC will operate similarly to most vocational trade schools. The school day will consist of a combination of theory and practical skill demonstration and application.

The unique feature that benefits ATTC is that its association with the ACLU provides a 'perfect on the Job Training capability. Students will go to school for one half day and then work in a functioning repair shop the second half of the day. ^{تعمیرگاه} ^{فصل کار در زمان آموزش}

While vocational training is the primary concern, ^{مختصراً} ATTC intends to address the literacy problem among mechanics who have not been fortunate to receive such training earlier. ^{در زمینه سواد}

Classes in basic Dari and Pushto literacy skills will be available everyday for those who wish to attend. Learning about technology by demonstration is good, but to keep up with it and the vast collection of technical materials reading is essential. ^{توسیع و بزرگ پرسنل}

ATTC does not expect to solve all the problems faced by the Afghan refugee working in the Automotive repair field. ATTC does desire to make a start in the right direction and grow as Afghanistan grows. ^{بزرگ}

COURSE DESCRIPTIONS

Basic Diesel Truck Mechanics Course

Students per class - 8 to 10
Hours - 240 - 825 hrs.
Theory instruction - 30%
Practical application - 70% 50/50 -

Format

This course is designed to develop beginning level mechanics who have some practical knowledge but whose skills and understanding are at minimal levels.

Course Curriculum

- 1) Tools -
Identification, use, and need for standard and specialized tools in the automotive trade.
- 2) Maintenance Concepts -
Understanding and performing program maintenance.
- 3) Chassis -
Introduction into vehicle suspension steering, final drive systems and brakes.
- 4) Engine -
Understanding principles and operation of the diesel engine.
- 5) Safety Driveline -
Theory and operation of transmission transfer case (4WD), differentials and their connecting components.
- 6) Fuel System -
General operation and service of fuel system.
- 7) Shop Safety -
Instruction in safe work habits and overall shop safety

Advanced Diesel Mechanics Course

Students per class - 8 to 10
Hours - 240
Theory instruction - 30%
Practical instruction - 70%

Format:

Course is designed for mechanics who have already mastered basic skill levels and understanding of components. This course will be an in-depth study of major repair and overhaul procedures.

Course Curriculum

- 1) Special Tool Use -
Develop knowledge of special tool identification and use.
- 2) Fuel System -
Theory and repairs
Field repair vs shop repair *
- 3) Engine Overhaul -
Instruction in disassembly and assembly with emphasis on measurement of tolerances and evaluation overhaul needs.
- 4) Transmission Overhaul -
Transmission and Transfer Case overhaul and repair procedures.
- 5) Differential Overhaul -
Emphasis on proper set-up procedures.
- 6) Hydraulics Systems -
Braked and clutch component repair - basic hydraulics and Air brake systems.
- 7) Steering Assemblies -
Evaluation of various steering systems and their repair and overhaul.
- 8) System Diagnosis -
Basic guidelines for problem evaluation and testing used for specific diagnosis of problem.

Basic Automotive Electrical

Students per class - 8 to 10
Hours - 240
Theory instruction - 50%
Practical instruction - 50%

Format

Course is designed for inexperienced mechanics to promote their electrical understanding and ability.

Course Curriculum

- 1) **Fundamentals of Electricity -**
Basic theory of electricity and how it is used in the automotive field.
- 2) **Test Equipment -**
Tools and devices used in electrical repair and diagnosis.
- 3) **Automotive Circuitry -**
Understanding how they work.
- 4) **Charging and Starting Systems -**
Principles of operation and maintenance.
- 5) **Safety Batteries -**
Care, testing and safety.

Advanced Auto Electrical

Students per class - 8 to 10
Hours - 240
Theory instruction - 40%
Practical instruction - 60%

Format

Designed for experienced mechanics. This will be an in-depth study of electrical components along with system diagnosis and repair.

Course Curriculum

- 1) **Review of Fundamentals -**
Review of terminology and principles of electricity.
- 2) **Component Understanding -**
Instruction and theory centered around the individual components.
- 3) **System Diagnosis -**
Evaluation electrical problems and implementing repair.

- 4) Starting and charging diagnosis -
- 5) Unit Overhaul -
Repair and overhaul of electrical components.
- 6) Safety -
How to work safely with electricity.

Equipment Managers Training

Students per class - 8 to 10
Hours - 40

Format

Course is designed for new and inexperienced personnel in effective management of Construction Farm and transport equipment.

Course Curriculum

- 1) Management Technique -
Lectures on management of mechanics and operating personnel.
- 2) Record Keeping -
How to make and keep accurate records and files and their purpose.
- 3) Program Maintenance -
Maintenance and why it is needed.
- 4) Parts Management -
How to select, organize and control work site inventories.
- 5) Technical Manual Orientation -
Instruction in use of parts books and Maintenance Manuals.
- 6) Equipment Familiarization -
Orientation to different types of equipment with instruction in identifying problems and solutions in care and maintenance.

Measurement and Calculation for Repair and Design

Students per class - 8 to 10
Hours - 40
Theory instruction - 50%
Practical instruction - 50%

Format

To develop measurement and calculation skills used by mechanics and welders.

Course Curriculum

- 1) Basic Math Review -
Review of basic math as involved with measurement and calculation.
- 2) Measuring Instruments -
Introduction to measuring tools and their use.
- 3) Practical Application -
Practical use of instruments and their care.

Introductory Machine and Welding

Students per class - 8 to 10
Hours - 80
Theory instruction - 20%
Practical instruction - 80%

Format

Designed to introduce mechanics to the use of power machines and welding equipment to facilitate repairs.

Course Curriculum

- 1) Safety Principles -
Instruction in safety practices
- 2) Introduction to Welding -
Basic Welding introduction materials and tools.
- 3) Introduction to Power Machine Use -
Basic introduction into power tools and their use.
- 4) Practical Application of Machine Use -
Demonstration and participation in practical use.

Advanced Fabrication and Machine Tool Use

Students per class - 8 to 10
Hours - 120
Theory instruction - 30%
Practical instruction - 70%

Format

Designed for experienced welders. Instruction in understanding design plans and implementing design plans using measuring techniques and a full scope of tools and machinery.

Course Curriculum

- 1) Design Interpretation -
Understanding design sketches and drawings and selection of proper methods of Construction.
- 2) Machine Tool Use -
Development of skills in Machine tool use.
- 3) Materials Calculation -
Instruction in selection and quantities of materials for varied projects.
- 4) Fabrication -
Implementation of fabrication process stressing incorporation of strength and durability of work.

Head Mechanic (Foreman) Seminars

Students per class - 8 to 10
Hours - 40

Format

Designed for new or inexperienced workshop foreman who manage mechanics.

Course Curriculum

- 1) Management Responsibilities -
Fundamentals and importance of management.

- 2) Diagnostic Procedures -
Instruction in diagnostic trouble shooting of various mechanical and electrical systems.
- 3) Charting and Recording -
Various required recording and monitoring tasks and their importance.
- 4) Program Maintenance -
Explanation of program maintenance and how it relates to better service capabilities.
- 5) Spare Parts Procedures -
Understanding Parts manuals and Parts Systems.
- 6) Service Information -
How to use service manuals and other Technical data.
- 7) Automotive Fluids -
Instruction in various automotive lubricants and fluids as pertaining to ratings use and temperature.

Maintenance and Operation Concepts for Field Engineers and Managers

Students per class - 8 to 10
Hours - 30
Lecture and demonstration

Format

This is a specialized course aimed at familiarizing Field Engineers and Managers in maintenance fundamentals and understanding.

Course Curriculum

- 1) Preventative Program Maintenance -
Maintenance and it's importance for Production.
- 2) Equipment Care and Operation -
Important fundamentals in maintaining and operation equipment.
- 3) Safety -
Safety procedures for repairs and operation of machinery.

- 4) **Planning and Scheduling -
Techniques for planning and scheduling maintenance.**
- 5) **Operator Awareness -
Identifying operator abilities and maintaining production effectiveness.**

DWP-SPL, CO. JIM, JIM/sam, 12-18-80

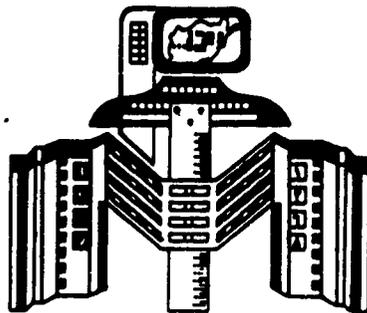


University of Nebraska at Omaha

Education Sector Support Project

A Brief Description

of the



MANPOWER TRAINING PROGRAM

October 1990
Peshawar Pakistan

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University of Nebraska at Omaha
Education Sector Support Project

A Brief Description
of the

MANPOWER TRAINING PROGRAM
(MTP)

October 1990
Peshawar, Pakistan

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MANPOWER TRAINING PROGRAM

(MTP)

INTRODUCTION:

The objective of the Manpower Training Program (MTP) is to provide basic office/administrative and vocational skills to Afghans in support of planning and administering Afghan resettlement and rehabilitation efforts. The strategy is to provide short term, transportable skill training in high need vocational areas which are performance based and job specific. The training provides for an integrated classroom and on-the-job training approach.

The preliminary work for the program began on 1 April 1989. A need confirmation survey, development of a curriculum, and recruitment of staff were completed by August 1989.

A site for developing the first Training Center was selected in Peshawar and a few shops were constructed.

The first group of students started their classes at M:T.P Peshawar on 7 September 1989 and the program officially came into existence. A second MTP training center was inaugurated in June 1990 in Quetta.

TEACHING MATERIALS:

Some textbooks and other reading materials related to the core curriculum were provided through the University of Nebraska at Omaha and the Metropolitan Community Collage of Omaha, Nebraska. Selected topics were translated into Dari-Pashtu by the instructors and circulated in the form of lecture notes to the students.

These materials after being tested, improved and edited will be printed as textbooks for the MTP.

STUDENTS:

A policy was adopted to provide equal opportunity to Afghans of all parties and provinces to participate in the entrance examination. Among the candidates, those with the highest grades are admitted to the program.

A level of high school graduate is required for the business programs and middle school graduate for the trade skills program.

IN-SERVICE TRAINING:

An experimental in-service training program for the staff of the ministries of Afghan Interim Government (AIG) was started in MTP Peshawar in September 1980.

The main objective of this program is to upgrade the skills of the AIG employees' in office management and financial management areas.

A group of 48 employees from six ministries of AIG were enrolled in the first cycle of the program. The classes begin after regular MTP classes and AIG office hours, with a six day/week and 4 contact hour/day schedule. Each cycle of the in-service training program lasts for 16 weeks.

A modified version of MTP's business program curriculum has been adapted for the in-service training program. Teaching materials, labs, equipment, and classrooms of MTP are used for the program.

CLASSROOMS AND OTHER FACILITIES:

Approximately one acre of land located in University Town, Peshawar, has been leased rent free for 5 years for the facilities needed for the M.T.P. At the end of the 5 year period, the developed property will be transferred back to the landlord free of charge.

All of the trade skill shops and classrooms, plus computer lab and typing lab, kitchen, bathrooms, administrative office, lunch hall and stores are built on this property.

Most of the MTP construction was done as part of the practical training program of the trade skills students.

MTP Quetta is developed on land belonging to the Ministry of Education/AIG in the Satellite Town of Quetta. All shops and classrooms were constructed as student work projects in conjunction with the practical training program.

CONTENTS OF THE ACADEMIC PROGRAM:

Based on a survey of the potential needs for the skilled personnel in post war Afghanistan, two academic programs were identified to be offered:

- I. Business Program
- II. Trade Skills

The training program was designed in 24 week cycles. Each cycle was divided in 2 quarters, of 12 weeks each. Throughout a cycle, each student is given over 860 contact hours of classroom and practical training in each section of the program.

I. BUSINESS PROGRAMS:

This section is divided in two sub sections:

1. Office Management
2. Basic Accounting

The core curriculum of each section is:

- a, Office Management:
 - Office Management and Secretariat
 - Communication
 - Mathematics
 - Typewriter/Computer
- b, Basic Accounting:
 - Book Keeping and Accounting
 - Communication
 - Mathematics
 - Typewriter/Computer

In addition to the above areas, courses in Theology and English Language are also taught to both sections. Course of studies for this section are as follows:

1. Office Management Option:

Course No	Course Title	Total Contact Hrs/week	Total Class Contact	Total Lab. Contact	Total Contact Hrs/12 Week
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First three-months (first quarter)

110	Communication	6	6	-	72
110	Basic Mathematics	4	4	-	48
110	Electronic Calculators	4	2	2	48
120	Beginning Typewriting	16	2	14	192
140	Record Management	10	5	5	120
101	English I	6	6	-	72
100	Theology	2	2	-	24

Second three-months (second quarter)

230	Advanced Typing	10	2	14	192
250	Office Procedures	8	4	4	96
210	Office Application at Micro computer	4	1	3	48
200	Theology	2	2	-	24
201	English II	6	6	-	72
210	Cooperative Work-experience	12	Practice in Gov. offices		

2. Basic Accounting Option:

Course No	Course Title	Total Contact Hrs/week	Total Class Contact	Total Lab. Contact	Total Contact Hrs/12 Week
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 First three-months (first quarter)

110	Basic Accounting	10	5	5	120
110	Communication	3	3	-	36
110	Basic Mathematics	4	4	-	36
100	Electronic Calculators	4	4	-	48
120	Beginning Typewriting	16	2	14	192
101	English I	6	6	-	72
100	Theology	2	2	-	24

Second three-months (second quarter)

230	Advanced Typing	16	2	14	192
250	Special Records	4	2	2	48
210	Office Application at Micro computer	4	1	3	48
200	Theology	2	2	-	24
201	English II	6	6	-	72
210	Cooperative Work experience	12	Practice in Gov. offices		

<u>PROGRAM</u>	<u>COURSE</u>	<u>COURSE TITLE</u>	<u>CREDIT TIME</u>
COMM	110	COMMUNICATION	Contact hours: 1st Quarter 72 2nd Quarter 72

Description:

Communication in business involves numerous letters and written reports. Also, much time is involve in oral communication, such as telephone calls, interviews, giving instructions, greeting visitors and working together with other people. The communication process, oral and written involves three levels of effectiveness:

1. Direct face-to-face communications is the most effective because it provides instant feedback and because it permits the use of non-verbal techniques (body expressions) to reinforce the oral message.
2. Indirect two-way communication, such as the telephone offers instant feedback without the non-verbal techniques.
3. One-way communications, such as letters and reports, lack both instant feedback and non-verbal communication use.

The unit will stress upon the students the importance of good communication skills in business regardless of the position in which the person is employed. This unit also provides an overview of the communication skills to be taught in the other eight units. The objectives for the unit are as follows:

1. To show how business demands people who can communicate effectively.
2. To present the different types of communication skills.

ACCT 110

BASIC ACCOUNTING

Contact hours:
1st quarter 120
2nd quarter 0

Description:

The students should be able to analyze and complete the bookkeeping cycle and be able to prepare and examine income and expenses and balance sheet statements. The student will also understand and use special journal that are used in the bookkeeping process.

1. The student will be able to use bookkeeping concepts and vocabulary.
2. The student will learn and understand the bookkeeping cycle in double entry bookkeeping.
3. The student will be able to analyze and complete, double entry bookkeeping transactions.
4. The student will be able to prepare and examine income and expenses and balance sheet statements.
5. The student will understand the use of subsidiary journals in the bookkeeping process.

MATH 110

BASIC MATHEMATICS

Contact hours:

TEXTBOOK: WORKBOOK PREPARED BY MANPOWER SCHOOL

1st quarter 48

2nd quarter 48

Description:

1. Develop and apply mathematical skills needed to solve mathematical problems.
2. Use elementary algebra and geometry.
3. Use special mathematical skills including percentage, averages, interest, ratios, and metric system.
4. Use whole Numbers, Fractions, and Decimals as follows:

The student will learn to write names for whole numbers. The student will learn to solve problems involving addition, subtraction, multiplication, and division.

The student will write fractional notation for part of an object or part of a set of objects.

The student will convert between fractional notation and mixed numerals.

The student will solve problems involving multiplication division, addition and subtraction of numbers.

The student will convert from decimal to fractional and from fractional to decimal notation.

The student will solve problems involving addition, subtraction, multiplication, and division using decimal notation.

The student will solve problems involving whole numbers.

SECR 110

ELECTRONIC CALCULATORS

Contact hours:
1st quarter 48
2nd quarter 0

TEXTBOOK: SOLVING BUSINESS PROBLEMS ON THE ELECTRONIC CALCULATOR. THIRD EDITION, Mildred K. POLISKY.

Description:

1. Develop touch system to operate electric calculators.
2. Perform the four basic mathematical processes of addition, subtraction, multiplication, and division on electronic calculators.
3. Calculate business problems on electronic calculators with speed and accuracy acceptable to an entry level employment.

SECR 120

BEGINNING TYPKWRITING

Contact hours:
1st quarter 192
2nd quarter 0

Description:

1. Teach correct keyboarding posture and techniques at the typewriter.
2. Teach correct key reaches for alphabetic, numeric, and symbol keys.
3. Build speed and accuracy in classroom assignments.
4. Teach correct formatting of business letters, memos, tables reports, and other classroom assignments.
5. Teach how to prepare stencils and spirit masters and to duplicate copies from them.
6. Teach proper care of all assigned equipment.
7. Designed to prepare people with vocational skills in typewriting.

SECR 140

RECORD MANAGEMENT

Contact hours:
1st quarter 48
2nd quarter 48

Description:

1. The student will understand the role and functions of maintaining a filing system.
2. The student will demonstrate the ability to file and retrieve records using alphabetic, numeric, geographical and subject methods of filing.
3. The student will manage business records effectively.
4. The student will demonstrate knowledge in setting up and evaluating record systems.
5. The student will learn how to develop and maintain effective inventory systems of supplies and equipment.

ENGL 101-201

ENGLISH I
ENGLISH II

Contact hours:
1st quarter 72
2nd quarter 72

Description:

1. How to use verbs "To be" in affirmative sentences.
2. How to make simple present sentences and then change to questions using("do", "he").
3. How to make past tense sentences.
4. To make questions using WH.
5. How to make the present continuous sentences using "ing".
6. How to make future tense sentences using "be+going to", "will", "shall".
7. Use of words like "a", "an", "the" in sentences.
8. Usage of specific pronouns like this, that, these and those.
9. Usage of adverbs in sentences.

SECR 230

ADVANCED TYPEWRITING:

Contact hours:
1st quarter 0
2nd quarter 192

Description:

1. Increase speed and accuracy in typewriting
2. Become more proficient in formatting business letters, memos, tables, and reports.
3. Be able to study a typing job and make correct decisions about placement on the typed page.
4. Be able to format and type all forms of business letters with maximum proficiency and attractiveness.

SECR 250

OFFICE PROCEDURES

Contact hours:
1st quarter 0
2nd quarter 96

Description:

1. Gain knowledge of how an office goes about gathering, processing, and distributing information.
2. Learn and understand how people must work together in an office setting in order for work to get done.
3. Learn how to develop and use job descriptions and work appraisal sheets to evaluate job performance.
4. Learn the role of the secretary in a present day office setting.
5. Learn the impact of new equipment, technology, and services that are available to the secretary.
6. Learn the increased opportunities and responsibilities for secretaries as their role changes to that of administrative assistant or office manager.
7. Learn to prepare papers, forms, and documents of a quality acceptable for office use.

Description:

The students will learn to use microcomputer software representative of programs employed in small businesses and organizations for word processing, database management, and office administration. Emphasis is placed on producing mailable correspondence and properly formatted financial reports and planning documents.

1. Prepare word processing documents using the proper creation, formatting, editing, and printing on the microcomputer.
2. Properly file, retrieve, delete, and copy documents as necessary.
3. Originate lists/documents that will create a merge list/data file.
4. Originate entries called macros and recall the information into documents.
5. Create documents incorporating pagination, headers, footers, line spacing, global search and replace, and spelling features.
6. Demonstrate knowledge of function keys through written examination and preparation of assigned documents.
7. Format financial reports using spreadsheet software available.
8. Originate, edit, sort, and print data base file.

Description:

Cooperative work experience is a program in which the manpower program and selected employees jointly provide learning experiences to prepare students for the work world. Sometimes these programs involve on-the-job-training where the student receives an additional stipend while in training. In most cases, the work experience is included as part of the student's regular program.

A cooperative work experience has three characteristics; first, the student has completed courses which are based on his employment objectives; second, the student shall be assigned to a cooperative work experience which is based on the same objectives as his in-school program; and third, the student shall receive supervision from both the school and the employer who provides the cooperative work experience. The objectives are:

1. To present, develop, and refine the skills necessary for job competency.
2. To provide a laboratory in which students practice the skills, knowledge, and attitudes learned to make the classroom instruction more meaningful.
3. To provide students an opportunity to develop the ability to work cooperatively with others.
4. To provide students with an opportunity to follow directions and accept supervision.
5. To assist students in developing good work habits and attitudes.
6. To help prepare students for full-time employment after they complete their program.

II. TRADE SKILLS: (CONSTRUCTION TECHNOLOGY OPTION)

This section is divided into seven sections:

1. Master Mason
2. Masonry
3. Carpentry
4. Electricity
5. Plumbing
6. Steel work
7. Welding

The fundamentals in each of the disciplines provides the core curriculum for the trade skills classes. In addition, mathematics, English language, and theology are taught.

Course No	Course Title	Total Contact Hrs/week	Total Class Contact	Total Lab. Contact	Total Contact Hrs/12 weeks
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2. Masonry Option:

First three-months (first quarter)

130	Masonry	30	6	24	360
190	Math I	4	4	--	48
101	English I	3	3	--	36
100	Theology	2	2	--	24

Second three-months (second quarter)

230	Masonry	30	6	24	360
290	Math II	4	4	--	48
200	Theology	2	2	--	24
201	English II	3	3	--	36

3. Steel Work Option:

First three-months (first quarter)

140	Building Steel work	30	6	24	360
190	Math I	4	4	--	48
100	Theology	2	2	--	24
101	English I	3	3	--	36

Second three-months (second quarter)

240	Building Steel work	30	6	24	360
290	Math II	4	4	--	48
200	Theology	2	2	--	24
201	English II	3	3	--	36

Course No	Course Title	Total Contact Hrs/week	Total Class Contact	Total Lab. Contact	Total Contact Hrs/12 weeks
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4. Welding Option:

First three-months (first quarter)

150	Welding	30	6	24	360
190	Math I	4	4	--	48
100	Theology	2	4	--	24
101	English I	3	3	--	36

Second three-months (first quarter)

250	Welding	30	6	24	360
290	Math I	4	4	--	48
200	Theology	2	4	--	24
201	English I	3	3	--	36

5. Carpentry Option:

First three-months (first quarter)

160	Carpentry	30	6	24	360
190	Math I	4	4	--	48
100	Theology	2	2	--	24
101	English I	3	3	--	36

Second three-months (second quarter)

260	Carpentry	30	6	24	360
290	Math II	4	4	--	48
200	Theology	2	2	--	24
201	English II	3	3	--	36

Course No	Course Title	Total Contact Hrs/week	Total Class Contact	Total Lab. Contact	Total Contact Hrs/12 weeks
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6. Electricity Option:

First three-months (first quarter)

170	Electricity	30	6	24	360
190	Math I	4	4	--	48
100	Theology	2	2	--	24
101	English I	3	3	--	36

Second three-months (second quarter)

270	Electricity	30	6	24	360
290	Math II	4	4	--	48
200	Theology	2	2	--	24
201	English II	3	3	--	36

7. Plumbing Option:

First three-months (first quarter)

180	Plumbing	30	6	24	360
190	Math I	4	4	--	48
100	Theology	2	2	--	24
101	English I	3	3	--	36

Second three-months (second quarter)

280	Plumbing	30	6	24	360
290	Math II	4	4	--	48
200	Theology	2	2	--	24
201	English II	3	3	--	36

CNST 110

JOB SITE MASTER

Contact hours:
1st quarter 48
2nd quarter 48

Description:

This course is designed to place the student in a supervision setting. Knowledge will be provided in the working of materials and equipment. Safe use and construction of a work platform and scaffolding will be practiced, and practical experience in the supervision field will be supplied. Other areas covered will include estimating, logical construction order, quantity objectives and practical first aid. This will leave the student with an entrance level knowledge and experience of the same.

CNST 120

PRINT READING AND LAYOUT

Contact hours:
1st quarter
2nd quarter

Description:

Students will obtain skills, knowledge and practical experience, to read and put into use information found on a set of prints. The student will gain experience in sketching and drawing of prints, along with the application of the same. Knowledge and skills will then be applied in layout of various buildings on an actual building site.

CNST 130

MASONRY

Contact hours:
1st quarter 48
2nd quarter

Description:

This course is designed to build skills and important knowledge in the masonry field. Proportions and mixing of mortar and care of masonry tools will be underlined. Instruction and practical experience in various brick bonds, leads and stone work will be provided. Training and experience in the mixing and placement of concrete, emphasizing safety throughout will leave the student well equipped to enter the masonry market.

CNST 190

CONSTRUCTION MATHEMATICS I

Contact hours:
1st quarter 0
2nd quarter 48

Description:

The student will receive instruction in theory and practical application of basic mathematics and measurements.

CNST 290

CONSTRUCTION MATHEMATICS II

Contact hours:
1st quarter 360
2nd quarter 48

Description:

The student will receive instruction in theory and practical application in mathematics, decimal numbers, basic algebra, practical plane geometry and solid figures and geometric construction.

CNST 140

STEEL WORK

Contact hours:
1st quarter 360
2nd quarter 360

Description:

This course will provide the student with knowledge and hands on skills in various application of steel reinforcement of recast concrete units. A strong emphasis on safety will be stressed in all areas.

CNST 150

WELDING AND CUTTING

Contact hours:
1st quarter 360
1st quarter 360

Description:

This course will provide the student with knowledge and hands on skills in welding and preparation of materials. Full instruction will underline the safe use of both gas and electricity to perform various welding tasks. Gas cutting of various steel will be demonstrated and practiced. Also covered in this course will be various welding rod and fluxes used in various welding procedures.

CNST 160

CARPENTRY

Contact hours:
1st quarter 360
2nd quarter 360

Description:

The students will be provided with knowledge and skills needed to perform functions in roof framing, window and door manufacture and cabinet building. The safe use of hand tools and work platforms will be underlined in this course. The above will supply the student with basic level knowledge and skill.

CNST 170

ELECTRICITY

Contact hours:
1st quarter 360
2nd quarter 360

Description:

This course will include introduction to electricity theory, sources, laws, circuits, conductors, insulators, transformers and tools. Safe working habits will be underlined throughout this course. Further instruction will include the measurement of electricity through the use of instruments and meters.

CNST 180

PLUMBING

Contact hours:
1st quarter 360
2nd quarter 360

Description:

This course will provide the student with knowledge and practical experience in the following: various types of water systems, waste water systems, application of septic tank, drain systems, venting of waste systems, water pumps and repair of the same. Also included in this course will be introduction to tools and safe use of tools and emphasis on job safety.

ADVANCE CLASSES:

A group of students with top grades from the graduates of the first cycle are given advance courses of 24 weeks in business programs and construction technology. These classes are a pilot for a possible upgrading of the program to a technical school level.

The courses taught in the advance classes are:

I. Business Program:

- Leadership
- Mathematics
- English
- Computer
- Social Structure of Afghanistan
- Theology

II. Construction Technology:

- Introduction to Technology
- Mathematics
- Drawing
- Practical and theoretical training in the related area of skill blue printed reading and sites supervision.
- Theology
- English

Class hours and contact hours of these classes are as follows:

I. Business Program Option

Course Title	Total Contact Hrs/week	Total Class Contact	Total Lab. Contact	Total Contact Hhrs/12 week

First quarter:				
Leadership	6	6	-	72
Mathematics	5	5	-	60
English	6	6	-	72
Computer	6	6	-	72
Social Structure of Afghanistan	6	6	-	72
Theology	1	1	-	12
Second quarter:				
Leadership	6	6	-	72
Mathematics	5	5	-	60
English	6	6	-	72
Computer	6	6	-	72
Social Structure of Afghanistan	6	6	-	72

II. Construction Technology Option

Course Title	Total Contact Hrs/week	Total Class Contact	Total Lab. Contact	Total Contact Hhrs/12 week
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First quarter:

Introduction to Technology	4	4	-	48
Mathematics	5	5	-	60
Drawing	3	3	-	36
Practical Training	-	-	-	36
Theology	1	1	-	12
English	1	1	-	12

Second quarter:

Introduction to Technology	4	4	-	48
Mathematics	5	5	-	60
Drawing	3	3	-	36
Practical Training Site Supervision	3	-	3	36
Theology	2	2	-	24
English	6	6	-	72

CIX
5

LEADERSHIP

Contact hours:
1st quarter 72
2nd quarter 72

Description:

1. Review of Writing Skills presented in Communication course:
 - Applying basic writing Skills
 - Outlining a report
2. Prearrange Business Letters:
 - Acceptable forms of writing letters and memorandum both in Dari and English
 - Responding in English-Dari to letters
3. Preparing Reports:
 - Purpose of reporting
 - Essential procedures when preparing reports
 - Outlining formats
4. Human Relations:
 - Fundamentals of Human Relations
 - Personal and career Development
 - Human Motivation, Job performance and Morale, personal problems.
 - Inter Personal communication
 - Organizational communication
 - Leadership
 - Human Behavior and Training
 - Performance Appraisals
 - Innovation and creativity, Making decision
 - Inter cultural Relations
5. Supervisory Skills:
 - Supervisory Roles of Management
 - Supervisor and Management
 - Exercising control and solving problems
 - Organizing
 - Handling complaints
 - Improving quality of performance
 - Controlling costs and Budget
 - Employee staff and the project manager
 - Management Personality and personal Development portfolio

MATHEMATICS

5 Contact hrs/week
Total of 60 hrs.

Technical Mathematics II.

Description:

1. Identify fundamental law of algebra including to add, subtract, multiply and divide positive and negative real numbers, and polynomials
2. Simplify scientific notation, roots and radicals, formula and tutorial equations, binomial factoring, and solving various geometric formulas:
3. Convert and analyze functions and solving by graphically, linear equation, and quadratic equations

Technical Mathematics III.

Description:

5 contact hrs/week
Total of 60 hrs

1. Verify the trigonometric functions angles, degrees, radian and definitions.
2. Application of right triangles.
3. Performs trig. functions of any angle and application of radian
4. Application of vectors and oblique triangle components, the law of sines, the law of cosines, and applications
5. Graphs of trig. functions

SOCIAL STRUCTURE OF AFGHANISTAN

Contact hours:
1st quarter 72
2nd quarter 72

Description:

1. A review of the History of the region and its significance of on the social structure of Afghanistan.
2. A review of the History of Afghanistan.
3. Contemporary Afghanistan-recent development and social institutions.
4. Current problems-Rehabilitation alternatives.

ENGLISH

Contact hours:
1st quarter 72
2nd quarter 72

Description:

Main content of the course:

1. Grammar Objectives:
 - Verbs
 - Questions
 - Adverbs
 - Tenses
 - Affirmative and Negative
 - Usage of proposition
2. Reading, speaking and writing it intermediate level.

COMPUTER

Contact hours:
1st quarter 72
2nd quarter 72

Description:

First Quarter ::

The students will learn to use microcomputer, creating spreadsheets, and properly formatted financial reports, payable and payroll transactions. The students also will learn saving, editing, displaying, sorting, copying, printing and saving arithmetic symbols in Lotus 123 Program.

Second Quarter:

The students will learn to use microcomputer, creating, saving, displaying, editing, sorting and printing database, format, report, query, label and view files. The students will learn using dot prompt in dBase program and dBase programming.

INTRODUCTION TO TECHNOLOGY

Contact hours:
96 hours in 24 weeks

Description:

1. Systems of Units- Metric and English + local
2. Calculating Density, forces and their components
3. Analysis of force on inclined planes. fractions
4. Laws of motions, (Newton Laws)
5. Concept of moment. work, energy (Kinetic to potential), and power
6. Basic machines- Types and applications calculating off. Mech. advantages
7. Basic Hydraulics- various hydraulic Machinery breakers, Hys. press, Hy jacks and crane + tractor. and Bulldozers, Mechanisms.
8. Measurement Instruments, in Metal works. carpentry, machine shops. electrical shops (calipers. vernier. micrometer-metering)

TECHNICAL DRAWING

Contact hours:
72 in 6 months

Description:

1. Teaching the languages of the engineers. Instrumental Drawing, typical equipments in Tech. Drawing. Lettering, Geometric construction Sketching and shop Description.
2. Multi view projection, sectional views. Auxiliary view, and Resolutions Dimensioning. working drawing. and practical Projects related to various professionals.

SITE SUPERVISION AND BLUE PRINT READING

Contact hours:
1st quarter 36
2nd quarter 36

Description:

1. Blue print Reading:
 - Main Elements of Blue prints
 - Construction Drawings-A complete set of blue prints
 - Construction technical drawings

2. Construction site supervision:
 - Safety and controlling of workers
 - Technical follow up on the site
 - Reporting and implementation program
 - Material estimation and cost estimation
 - Basics of surveying constructional sites.
 - Leveling construction site
 - layout

IRC.
REFRESHER COURSES

REFRESHER & PROFESSIONAL DEVELOPMENT

The following courses are selected to be offered by visiting professors from the United States:

1. Engineering Management
2. Design of Low Volume Roads and Bridges
3. Design of Reinforced Concrete Structures
4. Water Resources
5. Design and Fabrication of Pre-Cast Pre-Stress Structure
6. Engineering Economy
7. Water, Supply, and Sanitary Engineering
8. Soil Mechanics and Design of Foundation

IRC

Construction Engineering Staff

A. Wahed Hassani.	Ph.D (Roorkee University)
Z. Hamidi	M.S (Roorkee University)
G. Qadir	B.S (Faculty of Engg. Kabul)
Bahader Khan	B.S (Faculty of Engg. Kabul)
Sayed Aqa	M.Engineering (A. I. T.)
Hasser Ali	B.S (Faculty of Engg. Kabul)
Yar Mohd.	B.S (Faculty of Engineering)
M. Daud	B.S (Faculty of Engg. Kabul)
M. Naim	B.S (Faculty of Engg. Kabul)
Mh. Farid	B.S (IRC Const. Engg. Program)
Lutuf Rahman	(18 Month Const.Sup. Program)

INTERNATIONAL RESCUE COMMITTEE
CONSTRUCTION ENGINEERING PROGRAM

1st Semester

Islamiat
Math - I
Physics - I
Surveying - I
Drawing - I
Introduction to Tech.
English - I

2nd Semester

Islamiat
Math - II
Physics - II
Chemistry
Statics
Drawing - II
English - II
Practical training

3rd Semester

Islamiat
Math - III
Physics - III
Dynamics
Hydrology
Strength of Materials
Surveying - II
English - III

4th Semester

Islamiat
Math - IV
Electrical Engg.
Fluid Mechanics
Structure - I
Concrete - I
English - IV
Practical training

5th Semester

Islamiat
Concrete II
Geology
Hydraulics
Soil mechanics
Engg. Economics
Transportation Engg.
English - V
Practical training

6th Semester

Islamiat
Project design
Foundation
Technical Elective
Management
Water supply
English - VI

INSTITUTE OF EDUCATIONAL TECHNOLOGY

The Institute of Educational Technology was established with the foundation of the University in 1974. Its purpose is to produce audio-visual materials to promote and support the distance teaching based courses of the University.

The materials produced include radio and television programmes which are broadcast on the national broadcasting networks, and non-broadcast media to be used for small group instruction and individual study.

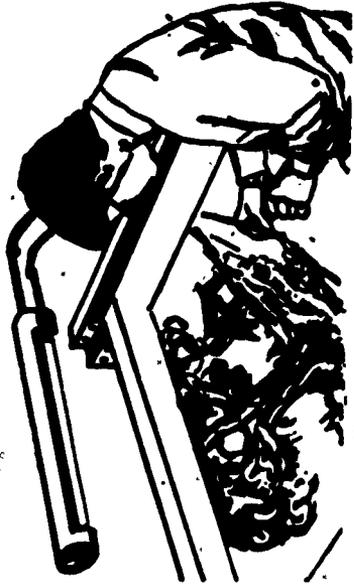


The Institute consists of:

The Programme Production Department staffed by producers well trained in the skills and techniques required for multi-media programme productions related to the course materials of the University.

As members of course development teams they conceive and develop audio visual materials in media formats and with methodologies appropriate to the size of the target audience required learning outcomes. In addition to the mass media television and radio programmes, non-broadcast presentations using video and audio cassettes, tape slide sequences, view foils, flip charts, kits and models amongst others are also produced.

A material Coordinator ensures that the produced materials are distributed to the appropriate centres and to the individuals in time for use during the University semesters.



The Design Department provides the art, graphic and illustration work required by the multi-media productions. Designers, illustrators, cartographers, calligraphers and photographers work with the producers and course development teams to provide appropriate high quality visual materials.

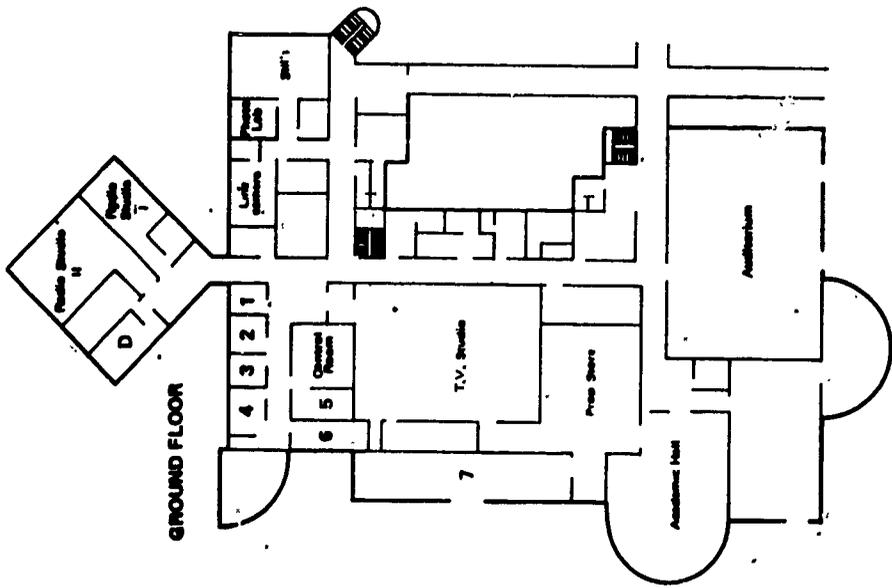
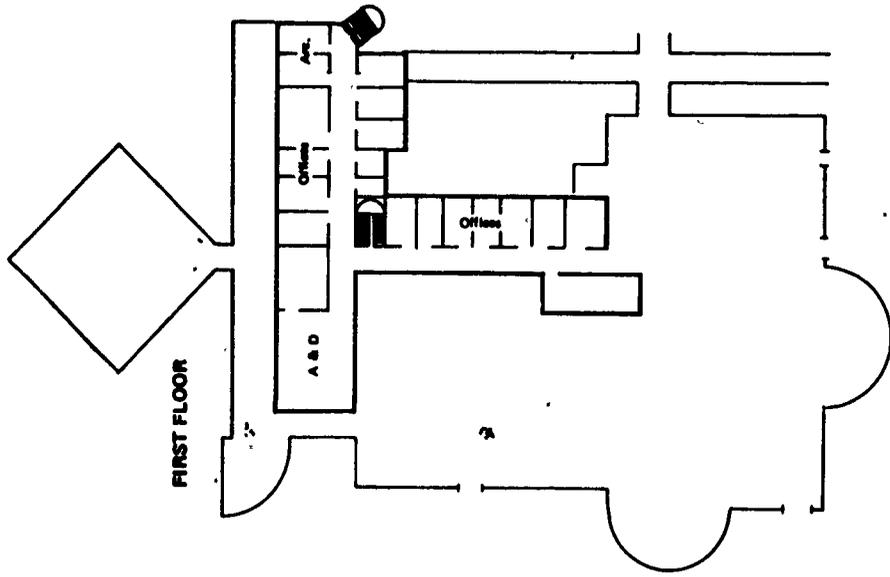
A spacious modern and well equipped Design Studio with Photographic galleys provides all the facilities necessary for the production of visual materials.

The Engineering Department operates and maintains the professionally equipped Television studio and two Radio Studios. It attends to the general audio-visual technical requirements of the University main campus, and provides an installation and maintenance service for the audio-visual units in the University Model Study Centres throughout Pakistan.

The department is staffed by a highly trained team of television, radio and electronics engineers and technicians.

An Archives Section maintains a classified and catalogued collection of the master copies of all media productions - flip chart to television programme. The master copies are used only for dubbing and duplication purposes.

Since the humble beginnings of 1975-76, when about a dozen radio and television programmes were developed to supplement print materials, there has been an impressive annual growth in the number and variety of media productions by the Institute. By the mid 1980s over 800 radio and 10 TV transmissions were being made annually and the



PROPOSED MODULE
FOR
ORGANIZATIONAL POLICY REVIEW (OPR) WORKSHOP

PURPOSE: To develop cohesive understanding of and out look to the ACLU Reorganizational Plan, goals and objectives.

DURATION: 3 Days

VENUE: Preferably offsite at Pearl Continental Peshawar.

CONTENTS:

- o Orientation to the Reorganization Plan
- o Charter and Bylaws of ACLU
- o Role and Functions of the Advisory Committee
- o Participative Decision Making and Problem Solving Process and Skills
- o Meeting Procedures
- o Interpersonal Skills
- o Introduction to Innovative Policy Making and strategic and Action Planning Process and Techniques

PROCESS & METHOD: Primarily Workshop Andragogical Methodology.

PROPOSED MODULE
FOR
MANAGERIAL SKILLS DEVELOPMENT (MSD) WORKSHOP

PURPOSE: The purpose of this MSD program is to up grade the knowledge and skills of senior and middle management of ACLU. Efforts should be made to bring about awareness of the requisite efficient organizational standards and techniques. Senior managers should be motivated to understand their role as leaders to plan, organize, direct and control the affairs of the organization in a practical way for optimization of efficiency.

DURATION: 5 Days.

VENUE: Preferably off site at Pearl Continental, Peshawar.

CONTENTS: *

- o Orientation to course objectives of planned "change".
- o Organizational awareness/diagnosis for enhanced effectiveness.
- o Strategic and Action Planning Budgeting and costing skills
- o Goal setting and Determining organizational objectives,
- X o Introduction to Management Information System (MIS)
- o Inter personal Skills/Communication skills for improved coordination..
- o Report writing skills.
- o Participative managerial Leadership and Team Work.
- o Introduction to Human Resource Development including performance appraisal process and procedure.

**PROCESS
AND**

METHOD: Primarily workshop (andragogical) methodology.

[* This may be modified and further developed after specific Needs Assessment as is proposed in the Initial Needs Assessment Plan.

PROPOSED MODULE
FOR
MANAGERIAL DEVELOPMENT SKILLS (MSD) REVIEW WORKSHOP

(MSDR)

- PURPOSE: o To obtain feedback and share feelings ^{on} Problems faced in applying what was learnt in the MSD Workshop so as to devise strategy and requisite technique & procedure for improvement. ^{previous}
- o To reinforce learning of contents of MSD Workshop.

DURATION: 2 Days

VENUE: Offsite - Preferably out side Peshawar.

CONTENTS: o Brainstorming, discussions and Action Planning.
& METHOD Highly participants centered and experiential.

PROPOSED MODULE
FOR
SUPERVISORY SKILLS DEVELOPMENT (SSD) WORKSHOP

PURPOSE: To enhance efficiency by introducing requisites of pro-active implementation and Supervision.

DURATION: 3 Days

VENUE: ACLU Headquarter

CONTENTS: * o Orientation to the Working by objectives (WBO).
 o Time Management
 o Working by Objectives/Results.
 o Micro Budgeting and costing skills
 o writing skills
 o Importance of feedback and follow up.

PROCESS
AND

METHOD: Primarily workshop (andragogical) Methodology.

*
┌ These may be modified and further developed after
└ specific Needs Assessment as is proposed in the initial
 Needs Assessment.

PROPOSED MODULE
FOR
JUNIOR SUPPORT STAFF DEVELOPMENT (JSSD) WORKSHOP

- PURPOSE:
- o To develop understanding at lower staff levels as to what their duties are and how best to carry them out.
 - o To create a feeling of participation and belonging to the organization.

DURATION: 3 Days

VENUE: Onsite at - ACLU Headquarter, Truck Farm or at project site.

- CONTENTS:
- Process*
- o To be conducted in Urdu. Multi-lingual Participants will be asked to assist translating into Pushto and/or Persian etc.
 - o Brain Storming and group discussions may enable to produce written check list by the groups for future guide line.
 - o Educative approach stimulating group participation should be used.

SPECIMEN CERTIFICATE

Consultant
Logo

MANAGERIAL SKILLS DEVELOPMENT WORKSHOP

CCSC/ACLU
USAID/AF
LOGO

AT
AFGHAN CONSTRUCTION AND LOGISTIC UNIT - ACLU PESHAWAR
CCSC - USAID/AF

From May - 1991

This is to certify

Mr.

HAS SUCCESSFULLY PARTICIPATED IN

Managerial Skills Development Workshop

Sponsored by

CCSC/ACLU/USAID/AF

TRAINING
CONSULTANT

ENG. MOHAMMAD KARIM
GENERAL MANAGER, ACLU

MR. ROBERT BENTON
CHIEF OF PARTY, CCSC

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ACLU
Engineering Department technical staff

S/N	Name / Pname	Position	Level of education	Place of education	Graduation date	Field	Remarks
U3	Eng-Abdul Basir	Unit Leader		Engineering Faculty Kabul in complete BSc	1982	Civil Engineer	
U3	Mohammad Jamal	Mason Foreman		Afghan Institute of technology (AIT) Kabul	1974		
U3	Hamiduddin	Site Engineer	MSC	Kabul Polytechnic	1988	Civil Engineer	
U2	Mohammad Sharif	Unit Leader	BSc	Engineering Faculty Kabul	1981	Civil Engineer	
U2	Mir Mohammed Ayub	Site Engineer	BSc	Engineering Faculty Kabul	1981	Civil Engineer	
U2	Sher Ali	Asst. Unit Leader	BSc	Engineering Faculty Kabul	1979	Civil Engineer	
U2	Rohullah	Equipment Manager	BSc	Engineering Faculty Kabul	1983	Mechanical Engineer	
U2	Sayed Ahmed	Site Engineer	BSc	Engineering Faculty Kabul	1980	Civil Engineer	

ACUJ
Engineering Department technical staff

S/N	Name / Pname	Position	Level of education	Place of education	Graduation date	Field	Remarks
JU	Abdul Karim	Equipment Manager,	BSc	Faculty of Engineering, Kabul	1966	Mechanical Engineering.	
JU	Abdul Hadi	Site Engineer	BSc	Kabul Polytechnic	1988	Civil Engineer	
JU	Alghul Khalilq	Mason Foreman		Faculty of Engineering Kabul (incomplete BSc)	1976	BSc (incomplete)	
CEO	Sadullah	Highway Tech.		Central Survey School of Kandahar	1969	Survey	
CEO	Mohammad Sadiq	Highway Tech.		Central Survey School of Kandahar	1969	Survey	
CEO	Sayed Peishah	Const. Coordinator	BSc	Kabul Polytechnic	1980	Civil Engineer	
CEO	Eng. Amir Mohammad Pama	Asst. Const. Coordinator	MSc	Institute of Technology Kabul, & Leningrad, USSR	1986	Telecommunication Engineer	
JU	Abdul Hadi	Asst. Team Leader	BSc	Faculty of Engineering, Kabul	1983	Civil Engineer	

Engineering Department Technical staff

S/N	Name / Name	Position	Level of education	Place of education	Graduation date	Field	Remarks
U2	Mohammad Din	Camp Supervisor	MSc	Kabul Military University Yugoslavia	1965	Civil Engineer	
U2	Sayed Inayatullah	Masonforeman		High School Graduate 18 months supervisory JRC courses	1983 1990	Construction	
FD	Habib Khan	TD Supervisor	MSc	Faculty of Engineering Kabul & Germany	1984	Mechanical & Computer	
FD	Gul Wali	Maintenance Clerk	MSc	Polytechnic, Soviet Union	1973	Thermo Electricity.	
FD	Mohammed Kabir	Assistant Logistic Manager	BSc	Faculty of Engineering Kabul	1978	Civil Engineer	
JU	Abdul Hanan	Project Liaison	BSc	Faculty of Engineering Kabul	1982	Electrical Engineer.	
JU	Sana Gul	Asstt. Unit Leader	BSc	Faculty of Engineering Kabul	1979	Civil Engineer	
JU	Abdul Halim	Masonforeman		Afghan Institute of techno logy AIT Kabul	1990		

D. Pines, Perami

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No.	Name	Designation	Subject	Organization	Duration	Date	Remarks
3	Eng. M. Sharif	Chief of engineering department	Managing yourself and your staff	VITA	10 days	Sep. 90	
4	Eng. M. Anwar	Head of Highway department	Survey and construction materials	CSC	"	"	
5	Eng. M. Qasem	Highway engineer	"	"	"	"	
6	Eng. M. Omer	Planning engineer	"	"	"	"	
7	Eng. A. Wahid	Q.C. engineer	"	"	"	"	
8	Eng. Roohullah	Head of planning department	Management (Sketch)	IRC	one week	May, 91	
9	Eng. Gul. Sediq	Head of bridge department	"	VITA	3 months	Oct-Dec. 90	
10	Eng. A. Mohd	Bridge design engineer	"	"	"	"	
11	Eng. Roohullah	Head of planning department	Design of RCC structures (Rehabilitation)	IRC	2 months	Nov-Dec. 90	
12	Eng. Gul. Sediq	Head of bridge department	"	CSC	"	"	
13	Eng. A. Mohd	Bridge Crew leader	"	"	"	"	
14	Eng. A. Mobin	Bridge design engineer	"	"	"	"	
15	Eng. S A M Hamidi	Chief engineer	Decision making and problem solving	IRC	3 days	July, 91	
16	Eng. A. Ali Najimi	Deputy Director ACLU	"	"	"	"	

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Engineering Department Technical staff

S/N	Name / Name	Position	Level of education	Place of education	Graduation date	Field	Remarks
DU	Abdul Patah	Site Engineer	BSc	Faculty of Engineering, Narghar	1986	Civil Engineer	
U1	Zarghoon	Unit Leader	BSc	Polytechnic, Kabul	1980	Civil Engineer	
U1	Sultan Mohammadi	Site Engineer	BSc	Polytechnic, Kabul	1979	Civil Engineer	

D. Patah, Patah

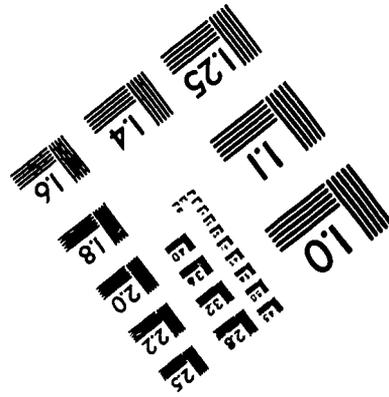
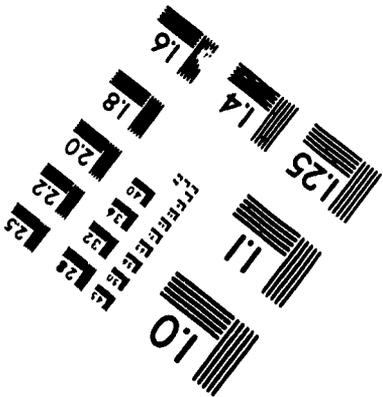
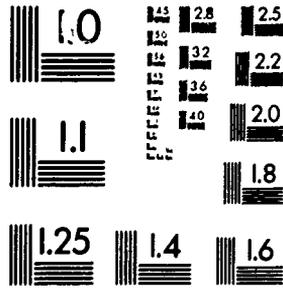
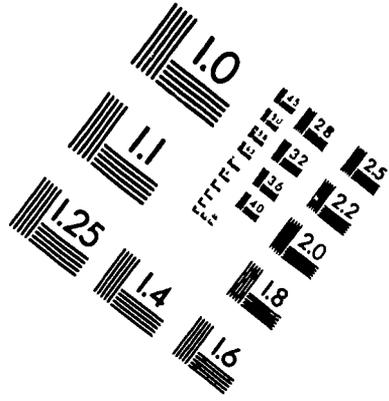
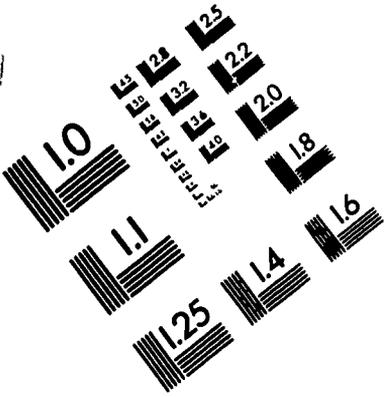
ENGINEERING DEPARTMENT

List of courses taken by Engineers

S/N	Name	Position	Title of courses taken	Organization	Duration	Remarks
U2	Mohammad Sharif	Unit Leader	TOEFL	UNO	4-5 months	
CE0	Abdul Mobin	Bridge Design Engineer	TOEFL	UNO	4-5 months	
U2	Sayed Ahmed	Site Engineer	Explosive	Sarnad Drilling & Blasting Ltd.	21 days.	
JU	Abdul Hedi	Site Engineer	"	"	21 days.	

D.UM. Person

IMAGE EVALUATION TEST TARGET (MT-3)



APPLIED IMAGE
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