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Assessment of Afghanistan Construction and Logistics Unit

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Preface

This report was prepared in response to Delivery Order No. 28 under A.I.D. Contract No. 306-0205-C-00-9385-00, Afghanistan Studies Project. The work was carried out by the joint venture of Nathan Associates Inc. and Louis Berger International, Inc.

The principal contributor, referred to in the text as the field investigator, was Mr. John Gibbons. The work was carried out with the assistance of Mr. Basharat Ali of the USAID Mission to Afghanistan and Pakistan, and the report was reviewed by editors in the Washington offices of Louis Berger International, Inc. and Nathan Associates Inc.

1. Introduction

The purpose of the Commodity Export Project (Project No. 306-0205) was to review and assess the Afghanistan Construction and Logistics Unit (ACLU). The objectives of the assessment were to

- Evaluate current operations of the ACLU,
- Determine the capabilities of and prospects for ACLU to become self-sustaining after USAID funding is withdrawn, and
- Recommend future development of ACLU as a nongovernmental organization (NGO).

To accomplish the assessment the following tasks were performed:

- Equipment and spare parts inventories were reviewed,
- The workshop and warehouse were visited,
- Equipment and office facilities were inspected,
- Relevant documents on ACLU past activities were reviewed, and
- Key donor, contractor, and consultant staff were interviewed.

On the basis of the information gathered, appropriate organization, equipment, staffing, and training requirements were recommended in order to make ACLU a self-sustaining entity. It should be emphasized that, considering the incomplete state of information on the ACLU and the uncertainty about the future market it will face, the primary source for justification of the recommendations is the extensive professional experience of Mr. John Gibbons, the principal investigator.

2. Background of the Afghanistan Construction and Logistics Unit

USAID established the Afghanistan Construction and Logistics Unit in 1988 in Pakistan to transport refugees and necessary supplies to Afghanistan. To carry out these transportation activities it became clear that repairing the roads was necessary. As a result, over time, ACLU's major activity became repair and construction of roads and bridges and other rehabilitation work within Afghanistan.

When USAID withdrew all field construction funding on June 30, 1993, it was necessary to decide what to do with the considerable amount of U.S.–purchased machines and material the ACLU had been using. There were two options: the unit could be dissolved and its assets reassigned by USAID, or it could reorganize itself as a financially sustainable organization using some of the U.S.–purchased assets and institutional strengths it had developed. The decision was made to reorganize ACLU, and it is now in the process of converting from an entity dependent on USAID funding to a nongovernmental organization (NGO) legally constituted in both Pakistan and Afghanistan that can support itself by obtaining grants and contracts from non-USAID sources. ACLU is currently offering design and construction services for projects in Afghanistan and Pakistan that are related to irrigation systems, roads and bridges, and buildings. Several grants and contracts for these services have been secured.

The draft Memorandum and Articles of Association has been prepared and the board of directors has been selected. USAID hired a lawyer, had ACLU register as a nonprofit NGO in Afghanistan, and is now registering it in Pakistan.

3. Assessment Findings

It seems clear that in order to become financially self-sustaining, ACLU needs to change its

- Financial management;
- Juridical structure;
- Staffing and organizational structure;
- Marketing strategy;
- Productivity, cost, and scheduling control;
- Training;
- Technical assistance; and
- Equipment configuration.

These changes will require difficult management decisions, as well as some assistance with equipment grants, external training, and technical assistance. ACLU management is generally conscious of these needs and has already taken a number of the steps required to become self-sustaining.

In the following sections the current situation is first assessed, taking into account the changes that have already occurred and the adequacy of existing and proposed arrangements for an independent, self-sustaining ACLU after USAID assistance is terminated. Next, recommendations are made on steps ACLU management and USAID should take to establish that independence.

FINANCIAL MANAGEMENT

The Construction Control Services Corporation (CCSC) Finance/Administration Manager indicated that the ACLU Finance Section has a financial control system, but that ACLU staff does not know how to use it. A financially sustainable ACLU will have to have accurate financial records and projections. The ones the field investigator observed are not available in sufficient detail, especially for the time periods involved, to make any definitive judgment on the organization's current or projected financial status.

The conclusions in this report are, therefore, based on expert estimates of the volumes, equipment, and efficiency that are likely to be consistent with profitability. That is, they are based on the field investigators' years of practical experience in managing construction work in the United States and abroad.

JURIDICAL STRUCTURE: JOINT VENTURE CONSIDERATIONS

The legal situation of ACLU is uncertain, but steps have been taken to convert it to a NGO registered under both Pakistani and Afghan law. As demonstrated later, this is probably the only basis on which ACLU can continue to serve a number of its existing clients, as well as making it easier for USAID to grant it the equipment needed. No legal assistance was provided for in the scope of work for this study; therefore, detailed legal questions must be left to the Mission's lawyers.

ACLU will be short of expertise and capital and might be assisted in achieving a productive, financially sustainable future by some sort of joint venture arrangement with a large U.S. or Pakistani joint venture partner. It is reasonable to assume that some U.S. contractor, properly advised of the background and potential of ACLU, would want to join the organization as a partner. ACLU is a

very attractive but risky investment opportunity. Private firms would consider ACLU's organization as a not-for-profit NGO an obstacle, although not an insuperable one, to forming a joint venture.

From a U.S. contractor's point of view, besides the ACLU's having equipment on site, a major attraction of the organization would be the potential market for its services when hostilities in Afghanistan cease. It could be expected that when construction projects for buildings, bridges, roads, and irrigation canals are contracted under international tender that there will be work for ACLU in the form of joint ventures, depending on how the work is packaged and the sequence of funding and contracting. A U.S. contractor might have a tax incentive to provide venture capital in a joint venture with ACLU.

From ACLU management's point of view, there are clearly advantages to a joint venture. The ACLU General Manager expressed an interest in joint venturing because he believes that it will provide ACLU access to special equipment, such as pile drivers, asphalt mixing plants, and large crushers. It would also provide ACLU personnel with management, construction techniques, and specification compliance experience and give the general manager confidence that a financial cushion is available for working capital as needed.

Nevertheless, there are also disadvantages as far as ACLU's management is concerned. If an international contractor entered into a joint venture with ACLU now, the contractor would want management control because ACLU does not have sufficient management capability or experience to run a project. It is not clear whether ACLU management understands the extent of control over its operations that it would give up. Further, some of ACLU's clients might refuse to deal with ACLU if it were anything but an entirely indigenous body. Thus, any joint venture would have to be carefully structured.

Discussions with Pakistani contractors revealed their desire to enter into a joint venture with ACLU in order to gain use of ACLU's equipment. However, because ACLU lacks sufficient management experience there is also a danger that the more experienced Pakistani contractors would virtually take control of ACLU, even if they did not insist on formal guarantees like the U.S. contractors.

However, it is certainly possible that a joint venture arrangement might be developed that would permit ACLU to conduct its business as an Afghan NGO and do other work as a joint venture partner, subcontractor, or a party to some managing contract arrangement.

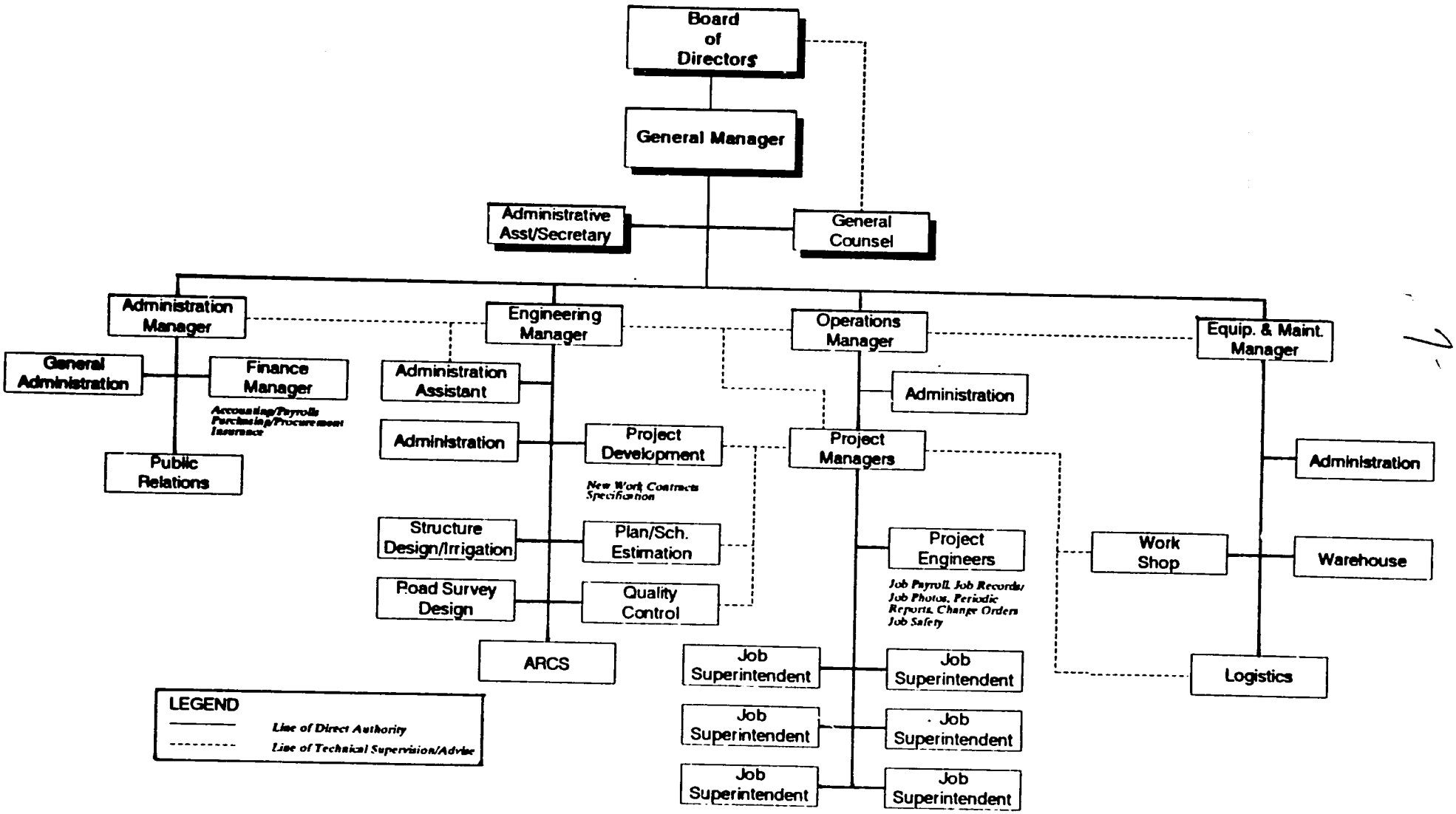
STAFFING AND ORGANIZATIONAL STRUCTURE

When USAID terminated construction funding June 30, 1993, ACLU substantially reduced its staff, resulting in the retention and reassignment of a core staff. As ACLU expands with the procurement of new construction projects, increases in staff and revisions to the organizational structure will be necessary.

It is difficult to determine the precise "right size" for any organization, but the current staff level appears to have been well thought out and is probably the appropriate one. The 86 people who remain on staff are probably just the right number to be able to regenerate the organization as it grows.

As shown in the proposed organizational chart (Figure 1), the overall administration of ACLU will be the responsibility of the general manager. The general manager will be assisted by four department heads who will administer their departments under his guidance. The general manager is a

Figure 1. Proposed Organization of the Afghanistan Construction and Logistics Unit



dedicated individual who is applying himself to the responsibilities of the position, but he is devoting a disproportionate amount of time to market development rather than to overall management of the ACLU.

Administrative responsibilities in the four main departments of administration, engineering, equipment and maintenance, and operations need to be clarified in order to avoid duplication of effort and gaps in service. The field investigator's findings in each of these departments are discussed in the following subsections.

Administration Department

The Administration Department is responsible for public relations, payroll, accounting, insurance, purchasing, procurement, drivers, and office staff.

The organization chart for the department (not available for this report) does not correspond to the overall organizational chart shown in Figure 1. The department chart does not show a financial manager but indicates instead accountant and payroll and purchasing/procurement sections. This discrepancy needs to be reconciled so that lines of authority and responsibility are clearly defined.

The finance section has not performed the necessary tasks in developing comprehensive cost accounting and control systems. A new head of the finance section has been selected and reportedly will assume the position shortly.

As discussed in Chapter 4, Recommendations, staff in the finance section need extensive additional training.

Engineering Department

The Engineering Department is responsible for planning, scheduling, estimating, project development, quality control, structural design, and surveying for irrigation, roads, and building projects. The department is very strong in structural design and drafting but less capable in highway design, particularly soil mechanics. The ACLU has a quality control laboratory but it does not have the capability to determine soil and rock strength parameters, such as California bearing ratio (CBR), unconfined compression, and so forth.

Within the department, the project development section has two senior project development engineers. It is unclear who is responsible for which section.

The Engineering Department was found to be well organized and adequately staffed with dedicated personnel. Although the deparament staff are all professionally capable, they need additional training, particularly in highway design, contract documents, and project development.

Equipment and Maintenance Department

The Equipment and Maintenance Department is responsible for equipment repair and maintenance, warehousing activities, and the logistics of providing the proper materials and equipment to construction sites at the correct time. The department has responsibility for a large fleet of trucks and other construction equipment that give ACLU the capability to carry out projects.

The department manager and staff understand their responsibilities and importance to the organization. The workshop is well equipped and well organized with a staff that understands work requirements. Work orders for requisition of parts and materials are properly filled out and processed; the type of repair and time to accomplish the work tasks are recorded.

The warehouse was clean and orderly, with all spare parts neatly arranged for easy access. Sample parts, removed from packaging, were displayed to assist the mechanic in identifying the needed parts. Oil, lubricants, and tires were organized and accessible in separate storage areas. A manual inventory of available spare parts is maintained.

Operations Department

Before USAID cut funding for construction activities, the Operations Department was assisted by a construction supervisor provided by CCSC. When the USAID-funded construction projects were concluded, the construction supervisor left Pakistan. As a result, the Operations Department is currently undergoing changes in management personnel.

Evaluation of this department revealed that the chief engineer for the CCSC has prepared field construction report forms to be completed by ACLU construction personnel. However, these forms are not being completed promptly. It is essential that ACLU understand that good recordkeeping is necessary to control productivity and cost. It is anticipated that the personnel changes being made will improve recordkeeping and reporting.

The organizational chart for the department contains the Daruntal Warehouse, which does not appear on the overall organizational chart shown in Figure 1. The department chart also raises the question of delegated authority because it indicates multiple job superintendents rather than project engineers on some projects.

On the basis of a construction project site visit made in the company of the general manager, the field investigator concluded that job efficiency and supervision could be improved. The field investigator discussed his observations and findings with the general manager on site.

MARKET POTENTIAL FOR ACLU SERVICES

Because CCSC selected projects previously, ACLU has only recently assumed marketing responsibilities. A color brochure and two prospectuses were developed. Although the color brochure is suitable, neither prospectus is suitable for marketing because both contain inaccurate statements, promote the unit concept, and give incorrect confidential financial information.

ACLU has a considerable number of potential clients (some of which are discussed in detail here) but must overcome some clients' apprehensions, especially concerning the accurateness of its tenders and the quality of its construction management, if it is to sell to them. (See the section on Productivity, Cost, and Scheduling Control.)

ACLU enjoys excellent market potential because it is considered the best equipped and best trained contractor in Afghanistan. As a result, it qualifies for direct award of some projects without competitive bid. Nevertheless, clients have commented that ACLU is not actively marketing its capabilities. Potential clients have to seek ACLU instead of ACLU's actively promoting itself to the client. Potential clients would like ACLU to publicize the full range of its capabilities and assist them in defining areas of need. Another criticism was that during a project ACLU does not keep clients informed of progress, and that the projects it executes are difficult to monitor. As recommended later in this report, ACLU needs to actively promote itself and improve its liaison with clients.

One problem in the past has been that ACLU has not known the real costs of its services. Consequently, it tendered too high as a precaution, took extra time to complete projects, and did not keep the client informed of problems and progress. Clients want proof that ACLU can perform quality work on time and at a fair price. ACLU must communicate problems and progress to clients throughout the duration of the project. In addition, ACLU must prove that it has improved its tendering and construction management.

Beyond the specific clients noted in the next subsection, there is considerable scope for work once some level of law and order is restored in Afghanistan. When hostilities cease in Afghanistan, there will be 2400 km of roads as well as irrigation systems that need repair, rehabilitation or construction. Because few organizations in Afghanistan are qualified to prepare design and contract documents, the ACLU Engineering Department has market potential in this area. Because of the

department's experience, capability, and equipment, ACLU should obtain a significant share of the reconstruction work required. In the meantime, ACLU can gain experience and use its equipment by subcontracting to prime contractors in Pakistan and continuing to serve its present non-USAID clients.

One specific post-war need should be noted: the need for a National Geodetic Survey system in Afghanistan. Based on its their survey capability, the Afghan Road Condition Survey (ARCS)—a section of the ACLU Engineering Department—expects to complete mapping of all roads in Afghanistan on a 10-km grid before April 1, 1994. ARCS is one of the few organizations qualified to establish a national survey system for Afghanistan. In addition, through the data that ARCS has collected, ACLU can recommend to prospective clients sections of road and irrigation canals that need repair or rehabilitation.

When political conditions stabilize in Afghanistan and hostilities cease, it is reasonable to assume that many contracts will be let under international tendering by major donor agencies. When this occurs ACLU should be well organized and experienced enough to enter into a joint venture with major international contractors or undertake small projects without a partner. Although this market potential is in the future, ACLU should prepare now for these eventualities.

As noted earlier, in the interim ACLU has several opportunities to make use of its personnel and equipment. In addition to providing equipment for all ACLU construction projects, the Equipment and Maintenance Department has the market potential to produce revenue by renting equipment and providing repair services to outside entities. The workshop has the potential to market its capability by providing spare parts and repairing vehicles and equipment for other NGO and donor organizations. Through these activities, the department can contribute significantly to the successful growth of ACLU.

Clearly ACLU can serve and has served as a subcontractor to other contractors, particularly in Pakistan. It could also provide transport services using its trucks. It is recommended that ACLU contact the World Food Program (WFP) and the United Nations organizations for food and other hauling contracts because these organizations use private haulers. Another prospect for transportation contracts is in the Herat area, a growth area that has no local NGO transport facilities to haul people and cargo from the Iranian border to Herat. Trucks are not allowed to cross the border from Iran into Afghanistan, so there is market potential in this area.

Finally, there are a number of construction contracts that ACLU might secure in Afghanistan and elsewhere. The comments of current ACLU clients, as they relate to market potential, are presented in the following subsections.

Nordic Agencies

Representatives of the Danish Committee for Aid to Afghan Refugees (DACAAR), the Swedish Committee for Afghanistan (SCA), and the Norwegian Afghanistan Committee (NAC) reported that they have used ACLU in the past because they believed they were dealing indirectly with USAID through CCSC. When they found out that USAID and CCSC would not be actively supporting ACLU after March 31, 1994, they said they would not give ACLU work under their 1994 budget unless an expatriate is involved with ACLU or they were provided a guarantee of performance from an international bank (performance bond).

The Nordic agencies do not have confidence in ACLU as an independent entity at this time. This market, however, will not be a major source of revenue for ACLU in any case because the Nordic agencies are concentrating on social development and are sponsoring small NGOs that do much of their own construction. ACLU would be used as a supplemental contractor because it has good equipment and quality control testing laboratory capabilities.

The market potential of the Nordic agencies is Rs 4 to 5 million annually in small contracts. They would like to receive from ACLU a shopping list of projects that need funding so that excess

project funds can be used. The list should include the project location, need, and estimated cost. The Nordic agencies stated that they must work with Afghan contractors and will award projects to ACLU if their concerns about performance can be addressed. This issue was discussed with the ACLU general manager.

United Nations Development Programme

The United Nations Development Programme (UNDP) can award negotiated contracts without competitive bid if the contractor is Afghan and is reportedly prepared to award construction projects to ACLU without competitive bids under the following conditions:

1. Unit prices are agreed on,
2. UNDP trained supervisors are used, and
3. The work to be performed is labor intensive and machine supported.

If ACLU is considered a joint venture with a U.S. contractor, the project would have to be bid under international tender. UNDP expressed concern that expatriates will not work with ACLU after March 31, 1994. UNDP officials believe that expatriates provide some form of control and minimize field problems. The ACLU general manager has been advised of UNDP's position.

UNDP has a US$5 million budget allocated primarily to irrigation projects. However, it has a Rs 3 million project for rehabilitation of the approach roads to and town streets in Khost, Afghanistan (Project No. AFG/88/001). The project duration is estimated to be 7 months. UNDP also has a US$250,000 project for construction of the Bogra Area Intake for the Helmand Valley Irrigation District. The project will include approximately 300,000 m^3 of excavation, is scheduled to start January 1, 1994, and will last approximately 6 months. The ACLU general manager has been advised of both projects.

United Nations High Commissioner For Refugees

The United Nations High Commissioner for Refugees (UNHCR) does not award contracts directly but works through sister organizations within the United Nations. UNHCR is concerned with the lack of roadways, irrigation systems, and other conditions that prevent or discourage refugees from returning to Afghanistan.

To the extent that it has funds, UNCHR is not using them because of the lack of security in the country. If it were active UNHCR would, through other U.N. organizations, use ACLU to construct and repair irrigation canals and dams that the local community cannot repair because heavy equipment is required. UNHCR projects are primarily labor-intensive quick impact projects related to minor irrigation systems or drinking water. UNHCR is not currently active on projects because there is no security and, therefore, no funding. In any case, UNHCR is not a major market for ACLU.

Subcontracting

ACLU is currently working as a subcontractor for KARCON Ltd. The project director for KARCON Ltd. is satisfied with ACLU's capabilities. There appears to be a reasonable volume of other subcontracts of this type that ACLU might be able to secure to support its short-term financial sustainability. However, for subcontracting and direct contracting ACLU will have to overcome potential client suspicion about its capabilities. To overcome such suspicion may require the continued presence of an expatriate or bonding arrangements, and ACLU will have to remain an NGO to secure other potential work.

PRODUCTIVITY, COST, AND SCHEDULING CONTROL

ACLU's problems with clients and CCSC, which has been providing ACLU technical assistance, were evaluated to determine areas of concern that could affect the future performance and acceptance of ACLU. The evaluation indicated problems that result from a lack of experience and training that can be corrected. The problems cannot be attributed to an inappropriate attitude or lack of motivation because the ACLU senior staff are educated and dedicated professionals.

Costing

A common complaint from previous clients was that ACLU tendered prices were excessive because travel time and unit prices were inflated. These excessive tendered prices can be attributed to ACLU's lack of understanding of real unit costs and equipment depreciation costs. ACLU does not understand determination of overhead and indirect costs, cash flow projections, or project budgeting.

ACLU does not understand the real cost of doing business because it has not been obligated or trained to determine actual costs.Until now, ACLU has often been awarded projects because there are no alternative contractors to do the work; therefore, it has not been forced to be competitive, but this will change. As more contractors appear, if ACLU does not change, it will not be awarded contracts.

Contracting and Design Standards

In order to be able to provide design and construction services, ACLU must have an Engineering Department capable of preparing complete contract documents, including the necessary plans, specifications, conditions of contract, and the like. One difficulty in preparing contract documents is ACLU's lack of design standards. It will be necessary for ACLU to develop standard specifications and designs for routine structures in order to improve its efficiency and reduce costs.

TRAINING

The major finding of the evaluation of previous training was that much of the training was lost as a result of staff reductions. More than 50 training courses have been conducted for ACLU staff at all levels as evidenced in the May 10, 1993, Plan for Conversion of ACLU to an NGO. The courses, which were conducted by several consultants and agencies, consisted of 177,000 person-hours of training on a variety of subjects. English language courses constituted a major part of the training. Some 130 people received more than 35,000 person-hours of English-language training. Institutional Development Associates Ltd. conducted 2,384 person-hours of classes and workshops for management personnel. In addition, the 18 Finance Department employees attended the Accounting/Management Skill Workshop held February 24–27, 1992. More than 6,600 person-hours of computer training were provided to classes ranging in size from 4 to 17 participants.

Because many trained personnel were terminated when the permanent staff was reduced from 848 to 86 people—a 90 percent staff reduction—the extensive training provided before the staff reduction is not indicative of the training that the current ACLU staff actually received. Only one or two of the staff that participated in the Accounting/Management Skill Workshop remain on ACLU's staff. During interviews with ACLU personnel, staff indicated that they lack sufficient computer skills to fully use the software capability they have. These are examples of the depletion of training caused by the staff reduction and an indication of the need for additional training courses.

TECHNICAL ASSISTANCE

Through a technical assistance contract issued by USAID, CCSC provided technical assistance to ACLU. ACLU personnel have worked with the CCSC technical advisers to improve their technical and managerial skills through hands-on experience and formal training.

A review of the conversion plan indicates that technical rather than managerial skills have been emphasized. The conversion plan indicates that CCSC performed the following tasks:

- Controlled jobs selected,
- Supervised and monitored job execution,
- Set limits on categories and composition of ACLU staff,
- Controlled disposition of assets,
- Supervised quality control,
- Developed engineering standards,
- Approved engineering designs,
- Approved cost estimates, and
- Wrote all contract specifications and documents.

USAID's unexpected termination of financial and technical assistance support of ACLU occurred despite ACLU's unpreparedness to assume management control. ACLU will have to assume management control sooner than expected. At this time, ACLU is still not sufficiently trained in overall managerial and financial skills even though CCSC has been providing it technical assistance for more than 3 years.

CONCLUSIONS

ACLU can remain viable after USAID ceases funding of overhead expenses on March 31, 1994. It has the most extensive fleet of equipment and the best educated staff of any contractor who will be constructing roads, bridges, buildings, and irrigation canals in Pakistan and Afghanistan. ACLU is recognized by potential clients as the best qualified and will be awarded projects on this basis. The unit has shown that it could develop a market for its services after USAID ceases funding of construction projects. The market potential described earlier can reasonably be expected to be realized by ACLU. However, as in any contracting, marketing, or service business, there is always a risk to be considered. India could go to war with Pakistan, hostilities within Afghanistan could intensify, weather could become adverse, or other donor agencies could reduce funding and change priorities—as was done by USAID. These conditions are not anticipated but they indicate some of the risks beyond ACLU's control. It is reasonable to assume, however, that these risks would be within the limits experienced by any contractor.

In order to achieve its potential market, ACLU will have to make considerable changes in all aspects of its management. These changes are discussed in Chapter 4, Recommendations.

4. Recommendations

The recommendations presented in the following sections of this report are based on the field investigator's review of documents, interviews, observations, and his expertise, and observations and are offered to assist in determining ACLU's need for assistance and reorganization.

FINANCIAL MANAGEMENT

ACLU will have to implement an effective system of financial control by training staff and reorganizing the financial section.

JURIDICAL STRUCTURE: JOINT VENTURE CONSIDERATIONS

Deciding on an Arrangement

There are clearly advantages and disadvantages to each of the four potential forms that the disposition of ACLU's assets could take. Simple sale or other disposition of the machinery would make it available for productive use elsewhere but would waste the accumulated value represented by ACLU as a going organization. An NGO structure like the one being constructed will enable ACLU to keep some of its client base but will deprive it of the potential capital and management expertise of a joint venture partner. A private sector joint venture will be very hard to arrange before March 31, 1994, and would involve some loss of management control by ACLU management, as well as loss of some clients. Finally, some sort of hybrid arrangement, involving an Afghan NGO in some type of joint venture or with some type of management contract arrangement with a private engineering firm, would take even longer to work out if it is possible, and still may risk losing some clients.

The field investigator recommends that the current process of NGO formation be pursued, perhaps with some assistance provided to ACLU in developing a working relationship with a multinational engineering firm. To promote a potential joint venture arrangement, an advertisement could be placed in *Engineering News Record*, *Associated General Contractors*, and other trade journals announcing that ACLU is interested in a U.S. joint venture partner.

Selecting a Board of Directors

The success of ACLU as an NGO depends on the board of directors selected, the chief executive, and the board's ability to guide him. The board of directors selected should be impartial and without any political or territorial affiliations that would deter ACLU from obtaining projects.

It is recommended that USAID assign an expatriate to the board of directors for the first 2-year term. This assignment would alleviate some of the concern potential clients have expressed about ACLU's need for expatriate guidance. In addition, having an expatriate on the board would give USAID some input into the large investment it has made.

However, if USAID did not assign an expatriate to the board of directors, the negative impact would be minimal. Other ACLU clients have mentioned that they would be able to adequately monitor ACLU's activities. Officials at UNDP, a major client, stated that they do not see the need for an expatriate because it will monitor the work with its own staff. The Nordic agencies were the only ones that felt strongly about the need for USAID participation, and they are not expected to be

a major client. Still, the consequence of USAID's not assigning an expatriate to the board of directors will be ACLU's feeling that USAID has totally abandoned the organization and that USAID will have lost any potential control over its major investment.

STAFFING AND ORGANIZATIONAL STRUCTURE

It is recommended that ACLU retain its current staff level and increase the staff as new contracts and funding are secured.

Redefining Responsibilities

Because costs must be controlled by proper planning, coordination, and utilization of resources, it is recommended that ACLU make the following adjustments in its organizational structure.

1. The Planning, Scheduling, and Estimating Section of the Engineering Department should be responsible for determining the costs and allocation of resources (human resources, materials, and equipment). The Logistics Section of the Equipment and Maintenance Department should be responsible for delivery of resources to the correct place at the correct time.
2. Since cost controls, cost awareness and cash flow, and establishment of a budget are essential, reorganization of the Finance Department should proceed as planned.
3. The general manager should delegate responsibility for market development to the Engineering Department. It may be necessary for the general manager to make initial introductions to clients; however, he should not spend all of his time on marketing, which is only one of his areas of responsibility.
4. Job descriptions should be rewritten to clarify responsibilities on the basis of organizational changes, staff reductions, and changes in work assignments. The administrative responsibilities within the four major departments of administration, engineering, equipment and maintenance, and operations need to be clarified to avoid duplication of effort and gaps in service. The Administration Department organization chart does not correspond to the overall organizational chart presented in Figure 1. The department chart does not show a financial manager but indicates instead accountant and payroll and purchasing/procurement sections. This discrepancy needs to be reconciled so that lines of authority and responsibility are clearly defined. Within the Engineering Department, the Project Development Section has two senior project development engineers. It is not clear who is responsible for which section.
6. ACLU should attempt to hire people who were trained in the CCSC Finance Section but have accepted employment elsewhere. This would increase the level of qualified personnel in the finance section.

MARKET POTENTIAL FOR ACLU SERVICES

CCSC selected projects previously; therefore, ACLU has only recently assumed marketing responsibilities. A color brochure and two prospectuses have been developed. Although the color brochure is suitable, neither prospectus is suitable for marketing because they both contain inaccurate statements, promote the unit concept, and give incorrect confidential financial information. A new prospectus should be developed, printed, and distributed to prospective clients. One person in the Engineering Department should be responsible for marketing. The marketing manager should make all potential donors or sponsors aware of potential projects and ACLU capabilities.

There is a need for an Afghan national coordinate system, and ACLU has the capability through ARCS to establish such a system. ACLU should pursue this market as soon as there is a stable

government in Afghanistan. In addition, information gathered by ARCS should be used to list and define potential projects.

The ACLU Engineering Department has the capability to provide engineering services as a design consultant for buildings, roads, bridges, and irrigation systems. ACLU should investigate this market because much of the infrastructure in Afghanistan requires reconstruction and many buildings must be rebuilt and evaluated for structural stability.

The current equipment rental contract, which has clauses that are unfavorable to ACLU, should be rewritten. Idle vehicles and equipment available for rental should be marketed.

Since outside vehicles are currently repaired informally, a formal contract should be developed. ACLU has trained mechanics with good repair experience, a well-stocked spare parts warehouse, and a well-equipped shop. ACLU's capability to provide repair services to outside organizations should be marketed.

The quality control laboratory is well regarded by the Nordic agencies. The personnel are trained and the laboratory is equipped. Quality control testing of soils and concrete for other NGOs and agencies should be marketed.

PRODUCTIVITY, COST, AND SCHEDULING CONTROL

The establishment of sound productivity, cost, and scheduling control systems is necessary for a contractor to remain in business. The following are recommended to improve ACLU's management systems.

1. ACLU should continue to eliminate the work unit ("construction unit") concept and implement a resources allocation concept for performing all future work. The work unit ("construction unit") concept does not use equipment or personnel efficiently and results in higher overhead and unit costs. ACLU should accurately determine the unit costs for each work item in the bills of quantity, taking into account all factors that influence direct and indirect costs. These data should be input into a computerized database for estimating and cost control. The estimated unit prices should also be compared with actual unit prices, and the computer database should be updated with the actual unit prices.
2. Before a project tender is submitted, a project budget should be established, estimated cash flow requirements should be graphed as cash-in and cash-out projections, and the financial progress (S) curve should be developed.
3. As the project progresses, actual cash flow should be plotted on the same graphs for comparison. When the actual cash flow deviates from the estimated budget, the reasons should be determined.
4. The Engineering Department should provide the finance section with copies of construction schedules. The finance section should then compare the anticipated revenue to actual revenue generated by each work item monthly.
5. The Operations Department should use construction schedules to determine expected productivity, allowing trouble areas to be spotted.
6. The Engineering Department should use construction schedules to validate project estimates by comparing actual to estimated productivity.
7. The critical path for the construction sequence should be determined and updated monthly based on actual sequential occurrences and productivity changes.
8. To assist in determining costs and improving efficiency, ACLU should develop a mobilization plan for all projects tendered.
9. A physical inventory of all consumable construction materials should be made monthly to compare actual consumption with theoretical consumption. The inventory should be made

daily for all fast-moving materials such concrete cement, asphalt cement, and cutback asphalt.

10. Comprehensive productivity control systems, including the necessary forms, should be developed to control all equipment, labor, materials, supervision, production, and quantities.
11. Regular safety meetings should be held to reduce the number of accidents.
12. Bonuses for productivity and safety should be considered as incentives to increase productivity. Reducing lost time and equipment damage, and thereby increasing production will reduce overhead costs and increase revenues.
13. Standard designs and specifications should be developed so that the cost of engineering will be significantly lower, the process less time consuming, and the product more acceptable.

TRAINING

The evaluation findings indicate that ACLU requires additional training because

- The level of training originally provided to ACLU was insufficient,
- Trained personnel were lost because of staff reductions,
- Training is required to increase staff efficiency and to allow the staff to grow professionally, and
- Training is required for staff members whose responsibilities have increased.

It is not expected that ACLU staff can be adequately trained by March 31, 1994. However, CCSC must make a concentrated effort to provide training in critical management areas before this date. Because of the short time frame in which critical training must be provided, it is essential that this training start as soon as possible. Training should be concentrated on immediate needs and not on future potential needs.

The results of the training needs evaluation for all departments indicate that management training should take priority over technical training. Currently ACLU's most critical needs are training in financial control and accountability and overall management training.

Training in methods of data collection, recordkeeping, reporting, and data utilization appear to have been missed in previous training. ACLU staff do not understand the need for these items. It is recommended that multilevel training programs be conducted to teach management and field staff what records and data are needed and how to use and report the data collected.

Within the training hierarchy, CCSC staff should be responsible for training senior ACLU staff, who in turn should be responsible for training their subordinates and field supervision personnel. ACLU engineers have conducted in-house technical training programs in the past, and this practice should continue.

Recommendations that address specific training needs for each department are presented next.

Board of Directors and General Manager

Presuming that the reorganization of ACLU is carried out, training of the board of directors and the general manager is a priority. A majority of the designated ACLU NGO board members have not previously served as directors; they do not understand their responsibilities to ACLU nor do they have in-depth knowledge of ACLU operations. The board of directors and the general manager require in-depth training on the legal status of ACLU, the requirements of the Memorandum and Articles of Association, the background and objectives of ACLU, the assets of ACLU, and their responsibilities to ACLU. This training should be conducted by the CCSC staff who have served on the previous board of directors and by the lawyers who drafted the legal documents. It is essential that this training be conducted promptly, within a one-week period if possible, so that ACLU can proceed as defined by the Memorandum and Articles of Association.

Administration Department

As noted previously, the CCSC Finance/Administration Manager advised the field investigator that the ACLU Finance Section has a financial control system, but the ACLU staff does not know how to use it. Because financial control and accountability are essential in order for ACLU to become a self-sustaining entity, it is recommended that the CCSC Finance/Administration Manager work directly with the ACLU Finance Section to provide additional training in using the financial control system. Computer training will be required so that the capabilities and limitations of the hardware currently used are fully understood. Training is also required in the use of software programs for Peachtree, WordPerfect, and Excel. Training on how to develop and use the forms and records necessary to establish and maintain cost, productivity, and financial controls is also required.

Engineering Department

Because CCSC has been selecting projects, writing contracts, and assisting ACLU with cost estimating, it is familiar with ACLU's market potential. Therefore, it is recommended that CCSC establish a training program in marketing methods and criteria for project selection.

Rehabilitation and reconstruction of the irrigation systems will be one of the major requirements in Afghanistan. The ACLU Training Summary does not indicate training courses specifically for irrigation and drainage canal design and construction. If it is feasible in the short time remaining, it is recommended that the CCSC Chief of Party conduct training courses in this area because he is qualified and experienced in this field.

At the time of the evaluation, it was found that ACLU required assistance to properly plan and control a project or determine quantities. ACLU has had some training in these areas but developed limited capabilities. Therefore, it is recommended that CCSC staff train ACLU staff in how to use Microsoft Project for Windows. This training should be followed up with practical hands-on training on current projects where actual progress, resources usage, and costs are tracked, reported, and compared with estimated progress, resource usage, and costs. This training should be provided to both the Engineering and the Operations departments.

Equipment and Maintenance Department

The Equipment and Maintenance Department is responsible for logistics of equipment and materials. It is recommended that the department be given training in how to transfer handwritten inventory records to a computer system and how to schedule and track movement of materials and equipment.

However, recordkeeping could be improved by maintaining a historic log of maintenance and repair for each piece of equipment instead of by equipment category. The workshop is currently making the necessary repairs on all equipment in the yard so that equipment will be in operating condition when it is required. Because ACLU has no formal contract for vehicle and equipment repairs, equipment rental and repair service contracts need to be developed to protect the interests of ACLU.

The profitable utilization of equipment depends on ACLU's understanding of its costs and protecting itself from idle time by carefully drawing up its contracts. ACLU did not seem to fully protect itself in contract agreements.

Operations Department

The Operations Department requires training in project planning and control and in quantity surveying.

It is assumed that ACLU will be involved with asphaltic concrete construction sometime in the future. Since ACLU does not have sufficient crusher capacity to support this type of work and does not have an asphalt mixing plant, training in production and placement of asphaltic concrete is not recommended at this time. The same line of thought applies to training courses in prestressed concrete design and construction. It was reported that the Afghan contractors do not have the capacity to manufacture prestressed beams, nor does ACLU have lifting cranes of sufficient capacity to set the beams. In addition, ACLU does not have the capability to drive wood, pipe, or concrete piling. Therefore, it is recommended that courses in the design and manufacture of prestressed concrete, and design and construction of pile foundations, be deferred until more important training has been successfully concluded.

TECHNICAL ASSISTANCE

The most important technical assistance required by ACLU can be provided by CCSC. For improvements in organizational structure, productivity, and cost control ACLU should seriously consider the recommendations made in the sections Staffing and Organizational Structure and Productivity, Cost, and Scheduling Control. These recommendations are based on observations that were limited in time and physical area covered. It is recommended that ACLU solicit additional recommendations from CCSC and other experienced construction personnel. Additionally, ACLU should pursue funding to hire an experienced hands-on construction engineer on the senior staff.

Assistance is required in developing and implementing training programs recommended in the section Construction Equipment Disposition and other programs as approved by USAID. Management training in the Finance Section is critical. It is recommended that training programs be set up and implemented promptly. Through training and hands-on experience, it is anticipated that ACLU senior staff will gain a high level of technical skills before April 1, 1994. However, they will still be lacking in experience and will continue to require training support and guidance.

Granting of equipment and materials by USAID is certainly necessary, but the contractor's demonstrated level of competence should determine how much aid overall is to be provided. The recommendations presented in the sections covering construction equipment, spare parts, office furniture and supplies, and construction consumables are based on the assumptions that ACLU will properly reorganize and staff will receive the necessary training.

To cover overhead expenses until it is confident of being self-sustaining, ACLU should seek support from other foreign donors through the Afghan Ambassador in Islamabad.

After April 1, 1994, a USAID engineer from Peshawar could periodically monitor the ACLU operation to ensure that ACLU is performing and progressing as intended. If a USAID representative is assigned to the ACLU Board of Directors, the Peshawar engineer could report to him.

An advertisement should be placed in *Engineering News Record* and other construction trade journals for a construction specialist volunteer to assist in construction and financial management. Volunteers in Technical Assistance (VITA) or the Peace Corps might also be contacted. Some retired construction and financial managers would welcome the opportunity to be of assistance and to see other parts of the world. Additionally, civic organization may be willing to sponsor a person to provide assistance.

The assistance required by ACLU will be influenced by the type and quantity of the projects, the training provided, the implementation of recommendations made, and the extent of the line of credit that ACLU can establish with a lending agency.

CONSTRUCTION EQUIPMENT DISPOSITION

During the assessment, equipment availability and ACLU equipment requirements were evaluated. If ACLU is to maintain its current level of business it certainly needs much of the equipment it has

been granted. In fact, some additional pieces are occasionally required beyond those already granted, although the level is still far below that requested by ACLU in the documentation presented to the field investigator. It is difficult try to accurately state exactly how many pieces of what type of equipment would be required for additional work. The additional equipment required for a 50 percent increase in business would depend on whether the increase in business was projects involving buildings, bridges, irrigation, or roads. This recommendation is to some extent based on changing ACLU's system from a work unit system to a resource allocation method. Under the resource allocation method, exact numbers, models, and usage could not be defined until the extent, location, and type of work, as well as the rental equipment, were defined. The primary basis for the recommendations is the field investigator's professional experience with similar contracting arrangements around the world.

The switch from the construction unit concept to a resource allocation methodology seemed generally accepted in the field investigator's meetings with members of the Mission. The construction unit approach led to committing large amounts of personnel and equipment to work locations without regard to actual needs. Videotapes of work locations document the inefficiency. Without complete records of costs and productivity on the different projects to show the variation in unit costs and the projection of cost on a resource allocation basis, it is difficult to fully document this point. Logically, the same personnel and equipment would not be needed for a 5-meter bridge repair that would be needed for a 50-meter bridge construction, even though under a construction unit approach the same work unit ("construction unit") would be assigned to both. The reason for the switch in methodologies is to reduce unit costs, achieve more efficient management of personnel and equipment, increase productivity, and lower overhead costs.

Table 1 presents the status of the equipment granted, the equipment that is serviceable, and the additional equipment recommended.[1]

Ambulances. Ambulances have been declared surplus and will therefore not be discussed here.

Backhoes. Two Case and eight John Deere backhoes have been granted to ACLU. The contractor has requested three additional John Deere backhoes of a different model than those originally assigned. It is recommended that this request be denied even though a major portion of the work available in Afghanistan will involve restoration and construction of drainage and irrigation canals. The 10 backhoes already granted are sufficient for the contractors' proposed workload.

Pavement Breakers. Six Ingersoll Rand pavement breakers have been assigned to ACLU. It is recommended that these pavement breakers be granted to ACLU because they can be used for roadway rock excavation, removal of damaged drainage structures, and rock breaking in the quarrying operations.

Dozers. Four Caterpillar D7H dozers, three Komatsu D85A dozers (of which two have been taken by commanders), four Komatsu D4OA dozers (of which one has been junked), and three rubber-tired Zettelmeyer dozers have been granted to ACLU. Two of the Zettelmeyer dozers are

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[1]The recommendations presented are reasonable and are not the only requests of ACLU. If any request has been considered not to be cost beneficial, it was not recommended. Without additional analysis of market, productivity rates, and projects to be awarded, further justification for the recommendations cannot be substantiated.

with United Nations organizations and are not available to ACLU. By this count, 9 of the 14 dozers originally granted are available to ACLU for work.

All of these dozers must be transported on a low boy. The weight of the dozers and the size of hauling equipment makes it difficult to transport this equipment to work locations. Also, the equipment is sometimes larger than desired or required for the work. Therefore, ACLU has requested two small rubber-tired John Deere dozers. One of the requested John Deere dozers has been assigned but not granted, and the other is listed as excess. Both of these dozers can be transported in a MAN or Hino truck, giving the contractor improved access to work areas, increased flexibility in equipment allocation, and increased usage.

It is unfortunate that one of these small dozers is not available because granting the John Deere dozers to ACLU would restore the number of dozers to 14—the original grant—provided the three additional rubber-tired Zettelmeyer dozers requested are also granted. Rubber-tired dozers have more mobility than track-type dozers and can work on paved surfaces without damaging the pavement.

It is recommended that one John Deere and three Zettelmeyer rubber-tired dozers be granted to ACLU.

Compactors. ACLU has four Wacker plate compactors; this is an insufficient quantity. Vibrating plate compactors are required in small areas to obtain proper soil density when backfilling around bridge footings, retaining walls, or for subgrade compaction during roadway widening. ACLU should have a total of 10 vibrating plate compactors. It is recommended that the Wacker vibrating plate compactors originally bought for ACLU but transferred to RONCO be granted to ACLU. This will still leave ACLU with fewer vibrating plate compactors than desired but it will improve the situation.

The 1981 model Bomag walk-behind vibratory roller should be granted to ACLU. The roller has reached its economic life but will be of value to ACLU.

Air Compressors. Eight air compressors have been granted to ACLU; of these three are unserviceable. ACLU has requested three additional air compressors. The request is recommended because it would restore to ACLU the quantity of air compressors originally granted.

Rock Crushers. Five small rock crushers have been granted to ACLU, and two more have been requested. The request is recommended because these crushers can be used in series or in parallel to increase the productivity of base course and surface treatment materials.

Mine Detectors. Six mine detectors were granted to ACLU; one was destroyed by a mine. ACLU has requested and it is recommended that two additional mine detectors be granted.

Pneumatic Hammers. The two pneumatic hammers granted to ACLU are insufficient for its needs. The hammers are necessary for removal of damaged drainage structures and obstructions within the working area, it is therefore recommended that the six additional pneumatic hammers be granted to ACLU.

Excavators. Discussions with potential ACLU clients indicated that the major projects to be awarded in Afghanistan will involve irrigation canal rehabilitation and construction. ACLU indicated that it has been awarded an irrigation canal project that requires the use of large excavators. ACLU does not have a large excavator; it is recommended that one John Deere excavator be granted to ACLU.

Table 1. Equipment Granted and Serviceable and Additional Equipment Recommended

Description of Equipment	Quantity			
	Granted	Serviceable	Recommended	Total
Air Compressor	8	5	3	8
Auger, Texoma	2	2	0	2
Backhoe, Case	2	2	0	2
Backhoe, John Deere	8	8	0	8
Bulldozer, Caterpillar	4	4	0	4
Bulldozer, Komatsu	7	4	0	4
Bulldozer, Zettelmeyer	3	2 with UN	3	4
Bulldozer, John Deere	0	0	2	2
Concrete Mixer	8	8	0	8
Compactor, Wacker	4	4	6	10
Crane, P&H	1	1	0	1
Crusher	5	5	2	7
Excavator, John Deere	0	0	1	1
Explosive Detonator	0	0	1	1
Generator, 25 kW	0	0	3	3
Generator, 50 kW	0	0	2	2
Generator, +50 kW	0	0	3	3
Grader, DOD	3	3	0	3
Grader, Komatsu	3	3	0	3
Grader, John Deere	0	0	3	3
Loader, Case	1	1	0	1
Loader, Allis Chalmers	5	4	0	4
Loader, Radloder	6	5	3	8
Mine Detector	6	5	2	7
Pavement Breaker	0	0	6	6
Pneumatic Hammer	2	2	6	8
Roller, Ingersoll-Rand	3	3	3	6
Roller, Bomag	0	0	1	1
Saw, abrasive disc	0	0	1	1
Soil Stabilizer	0	0	1	1
Tractor, Massey Ferguson	12	12	4	16
Trailer, Flat Bed	3	3	3	6
Trailer, Fuel	7	7	4	11
Trailer, Water	7	7	3	10
Truck, Pick Up	39	39	0	39
Truck, Hino	27	21	0	21
Truck, MAN	11	10	0	10
Truck, Shower	0	0	2	2
Van, Shop	6	6	0	6
Vibrator, Concrete	6	6	2	8
Water Pump 3 inc.	3	3	9	12
Water Pump, Diaphragm	0	0	1	1
Water Pump, Bullfrog	0	0	2	2

There is also a large excavator in the RONCO storage yard. If possible, this excavator should also be granted to ACLU. When excavating large canals it is more efficient to use two excavators. The second excavator would also give ACLU the capability to work two large excavation projects simultaneously.

Explosives Detonator. The explosives detonator ACLU has been using is listed as excess, so it is not available for grant. If explosives will be available to ACLU for quarry operations or roadway rock excavation, an electric detonator is very useful.

Generators. The small electric generators granted to ACLU, ranging in capacity from 3 to 6 kW, are used for power tools and base camp operations. ACLU has requested a total of eight large generators. Five of these generators (three 25 kW and two 50 kW) are currently being used by CCSC personnel at their homes or they are listed as excess. The three remaining 50 kW generators have not been granted. The personnel will need the high-capacity generators to provide electricity for their offices, workshops, warehouses, and storage yard lighting when they relocate after March 31, 1993. It is recommended that as many of these eight generators that have not been declared surplus be granted to ACLU.

Motor Graders. ACLU has been granted three DOD motor graders and three Komatsu motor graders. The DOD graders are almost scrap, so ACLU has only three effective motor graders. ACLU has requested three John Deere motor graders to replace the DOD graders. This would bring ACLU back to its original request for six usable motor graders. Since six motor graders, in good working condition, will be required for ACLU to efficiently pursue the intended work program, it is recommended that three John Deere motor graders be granted to ACLU.

Survey Vehicles. The survey crew, particularly when using the equipment for determining coordinates by satellite readings, needs a closed vehicle to carry the equipment relatively free of dust and moisture, and with a minimum of vibration. They are now using an open-bed pickup truck, which is not recommended. It is recommended that a more appropriate vehicle be procured.

Front-end Loaders. ACLU has been granted one Case loader, five DOD Allis Chalmers loaders (four are usable but in poor condition and one is unusable), and six Radloder loaders (one is unusable and two are with the United Nations). One of the Radloder loaders was destroyed by a mine. Three Radloders remain on the available equipment list. Because of the condition of the DOD loaders and the age of the Radloder loaders, it is considered that ACLU effectively has six loaders. It is recommended that three Radloder loaders be assigned to ACLU.

Concrete Mixers. ACLU was granted eight concrete mixers and has requested two more. At this time eight concrete mixers are adequate for ACLU's anticipated workload. Ten mixers would not be excessive if ACLU is to rent equipment to other organizations.

Pickup Trucks. ACLU has 39 pickup trucks that have had hard usage because of distances traveled and the road conditions encountered. Many of the pickup trucks have been in use since 1988 and are reaching the end of their economic life. However, ACLU has sufficient pickup trucks and spare parts to maintain adequate transportation capability. Granting new Chevrolet pickup trucks to ACLU is not recommended. Further, it is recommended that any extra Chevrolet pickup truck spare parts, not yet declared surplus and located in the ACLU warehouse, be reclaimed and granted, along with the new trucks, to other NGOs.

Pumps. ACLU has been granted three water pumps, an insufficient number for the proposed workload. Since diaphragm and mud pumps are superior to impeller pumps for dewatering a construction site, and pumps will be needed to fill overhead supply tanks at offices and base camps and to fill water tankers, it is recommended that all pumps be granted to ACLU.

Rollers. Two smooth drums and one sheep's-foot roller have been granted to ACLU. This is insufficient for ACLU's anticipated quantity of earthwork construction. CCSC has requested them and it is recommended that three Ingersoll-Rand rollers be granted to ACLU.

Abrasive Disc Saw. ACLU requires an abrasive saw to cut concrete, steel, and asphalt-surfaced roads. The abrasive disc should be granted to ACLU.

Toyota Cressida Vehicles. The two Toyota Cressida vehicles currently used by CCSC should not be granted to ACLU unless neither the Toyota Land Cruiser nor the Suzuki Van is granted. If neither of these vehicles is granted, then one Cressida could be used by the survey crew as a substitute vehicle.

Soil Stabilizer. The soil stabilizer, which was manufactured in 1972, has reached the end of its economic life; therefore, spare parts will be difficult to obtain. ACLU can use the stabilizer for preparing subgrade and for leveling and mixing stabilized base course. The soil stabilizer should be granted to ACLU.

Massey Ferguson Tractors. ACLU has 12 Massey Ferguson tractors equipped with a rear-mounted blade. This is a marginal number of tractors because they are used to tow water tank wagons, to tow wagons with stone to the crushers, to pull tow-type rollers, and for other attachable types of hydraulic equipment. CCSC has requested 12 additional Massey Ferguson tractors. This number of tractors is considered unnecessary and excessive. Four additional Massey Ferguson tractors will prove sufficient.

Flat Bed Trailers. Six VEB flat bed trailers manufactured in 1978 are reaching the end of their useful life. ACLU has been granted three of these trailers and has requested three more. This is a reasonable request because the trailers are used to transport equipment and can be used to haul containerized food supplies. It is recommended that the three additional VEB flat bed trailers requested should be granted to ACLU.

Fuel Trailers. ACLU has been granted seven fuel trailers. This number is considered inadequate because these trailers are used to supply gasoline and diesel fuel to all ACLU equipment as well as provide fuel for rental equipment. CCSC has requested four additional 4655-liter fuel trailers. Based on ACLU's anticipated need for fuel trailers, this is a reasonable request. It is recommended that four additional 4655-liter fuel trailers be granted to ACLU.

Water Tank Trailers. The seven water tank trailers granted to ACLU are considered marginal for the unit's anticipated construction needs. Since the CCSC has requested three additional water tank trailers to supply offices, workshops, and base camps in addition to construction activities, this is considered a reasonable request. Of the five additional water trailers available, three should be granted to ACLU and the other two could be declared surplus.

Trucks. ACLU has 21 serviceable Hino trucks: 27 were granted, 2 were destroyed, and 4 are held elsewhere. ACLU was also granted 11 MAN trucks, 10 of which are serviceable. Therefore, 31 serviceable trucks are currently available. This is considered a sufficient number of trucks for ACLU's present and anticipated needs. If there is a definite need for the MAN trucks elsewhere, the contractor's request for 10 additional MAN trucks should not be granted. However, since the MAN trucks were manufactured in 1978 and have seen heavy service over very poor roads, they are not in good condition. Spare parts will be difficult to obtain; some of these trucks could be written off as surplus and left with ACLU to strip for spare parts.

Shower Trucks. Two VEB-IFA shower trucks have been requested by ACLU. They cannot be used as shower trucks but could be refitted as portable workshops or offices. Both shower trucks should be granted to ACLU to be modified and used as required.

Workshop Vans. ACLU has six workshop vans and has requested two more. The six vans are considered sufficient if ACLU is granted two shower trucks for conversion. If they are not granted the shower trucks for conversion, then one shop van will be sufficient.

Concrete Vibrators. ACLU has six concrete vibrators. This quantity is considered insufficient if two large concrete pourers are made at the same time. It is recommended that two additional concrete vibrators be granted to ACLU.

Spare Parts, Tools, and Supplies

Excess spare parts for the Hino GT 4×4 and Toyota pickup trucks are in the warehouse (Table 2). These excess spare parts, mostly brake linings, were ordered on the basis of the recommendations of a previous consultant. The list of spare parts, which are considered in excess of what ACLU will require over the next 2 years, is also given in Table 2. However, since ACLU has 30 Toyota pickup trucks and 53 Hino trucks, and intends to repair trucks and vehicles for other NGOs and agencies, it is recommended that the excess spare parts, not yet declared surplus, be granted to ACLU.

It is difficult for ACLU to obtain spare parts for the DOD-granted equipment because of age and availability. It has been necessary for ACLU to strip some equipment for spare parts to maintain other pieces of the same manufacture. Since the value of the DOD equipment may not justify the cost of moving it, consideration should be given to leaving the ungranted DOD equipment with ACLU to use for spare parts.

Gaskets, oil filters, air filters, tires, and other consumables were not inventoried. It is recommended that all of these items be granted to ACLU. The same recommendation applies to all tools in the workshop and testing equipment in the quality control laboratory.

Office Furniture and Supplies

USAID should recover all loaned radio sets, stoves, refrigerators, and air conditioners.

ACLU does not have sufficient computers or software. All computer hardware and software currently used by ACLU, as well as all computer hardware and software purchased by USAID for CCSC, should be granted to ACLU. The grant should include computer monitors, printers, voltage stabilizers, and all related equipment and furniture.

The current ACLU office can accommodate very little additional large furniture such as desks, chairs, and tables. When ACLU changes office accommodations after April 1, 1994, there may be more space and additional furniture may be needed. Because future needs cannot be determined at this time, ACLU should be granted all the office furniture currently in use. The balance of the tables, chairs, and desks should be declared excess.

Because the value of all other office furniture, such as file cabinets and office supplies (staplers, paper punchers, etc.), is low, these materials should be granted to ACLU.

Construction Consumables

At the time of the evaluation, ACLU had the following items in storage:

- 3,615 bags of cement valued at Rs 560,325
- 190 pieces of concrete pipe
- 20 tons of cut reinforcing steel valued at Rs 240,000

Table 2. Surplus Spare Parts

Equipment	Part Description	Part Number	Number Surplus
TOYOTA PICKUP	Clutch Cylinder Kit	04311-14021	140
TOYOTA PICKUP	Shackle Kit	04481-35040	200
TOYOTA PICKUP	Pin Kit	04484-35039	200
TOYOTA PICKUP	Shoe Kit	04494-35060	200
TOYOTA PICKUP	Shoe Kit	04495-35051	150
TOYOTA PICKUP	Hose	16571-54130	200
TOYOTA PICKUP	Hose	16562-54120	180
TOYOTA PICKUP	Windshield Wiper	82221-89103	100
TOYOTA PICKUP	Exhaust Pipe Gasket	90917-06004	100
TOYOTA PICKUP	Bearing	90363-40020	50
TOYOTA PICKUP	12 V Headlight	90981-04001	100
HINO GT 4 x 4	Bracket	15609-1220	500
HINO GT 4 x 4	Valve Lock Spring	901-26119	40
HINO GT 4 x 4	Oil Valve Seal	13719-1020	220
HINO GT 4 x 4	Piston Cup	31446-1210	140
HINO GT 4 x 4	Boot Rel. Cylinder	31476-1070	140
HINO GT 4 x 4	Brake Lining-Front	4741-4150	1,900
HINO GT 4 x 4	Brake Lining-Rear	47443-1510	1,450
HINO GT 4 x 4	Brake Lining-Front	47662-1130	2,000
HINO GT 4 x 4	Brake Lining-Rear	47664-1160	2,100
Case Backhoe	Pin	D 39094	50
Case Backhoe	Bladder	D 143065	30

- 20 100 kg of gabon wire valued at Rs 262,300
- 7078 m^2 of gabon boxes valued at Rs 566,240

Since the cement is of questionable value because of age and moisture absorption, since the reinforcing steel is cut into pieces, and since the gabon wire galvanizing may be damaged, all of these construction consumables should be granted to ACLU.