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F I N A L E V A L U A T I O N

O F

C E R F E R

The Regional Road Maintenance Training Center at Lomé, Togo

Herman L. Myers

Stanley A. Barnett

Work Order No. 3, Contract No. AID/otr-C-1381

November 26, 1976

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ACRONYMS AND ABBREVIATIONS

- AAI - African American Institute (second project contractor)
- A-F - Aeronutronic Ford (Aero-Ford: third project contractor)
- CEFEL - Centre de Formation pour Equipments Lourds (early name of the Center)
- CERFER - Centre Régional de Formation pour L'Entretien Routier
- C of A - Council of Administration (Board of Directors) of CERFER
- FAC - Fonds d'Aide et Coopération (French donor agency)
- FED - Fond Europeen de Développement (EEC donor agency)
- IRF - International Road Federation (first project contractor)
- PAR - Program Appraisal Report
- PROP - Noncapital Project Paper
- PWD - Public Works Department, U.S. equivalent of the governmental agency in each of the Entente states which CERFER serves on a priority basis.
- RDO - Regional Development Office/Niamey
- REDSO - Regional Economic Development Services Office/West Africa, at Abidjan
- RHEC - Regional Heavy Equipment Training Center (early name of the Center)
- RRMTC - Regional Road Maintenance Training Center (English name for the Center)

1. INTRODUCTION AND BACKGROUND

Under the terms of Work Order No. 3 to Indefinite Quantity Contract No. AID/otr-C-1381, AID requested Wolf and Company to conduct a final evaluation study of the Regional Road Maintenance Training Center (RRMTC) located in Lomé, Togo. RRMTC -- or CERFER, as it is called in French* -- has received support from AID under Project No. 698-11-999-135. AID support is now being phased out.

Work Order No. 3 calls for Wolf and Company to review CERFER's training effectiveness and analyze the Center's ability to meet probable and/or projected needs; review its regional character and administrative structure; and analyze its financial and budgetary requirements. Because the evaluation takes place at the close of a 13-year period of AID support during which CERFER has become known as a successful intra-African training institution, the PIO/T for the evaluation states that "the primary aim of this final evaluation (should concentrate)...above all, on 'lessons learned' which the (Council of the) Entente, member countries and AID might apply in the design and implementation of similar training or related institution building projects in the Entente, elsewhere in Africa and other regions worldwide."

The Wolf evaluation team consisted of two Senior Evaluation Generalists:

Herman L. Myers, international evaluation specialist, formerly director of evaluation design and planning of AID/LA.

Stanley A. Barnett, for the past 14 years director of Wolf and Company's national socio-economic development planning division.

* Le Centre Régional de Formation pour l'Entretien Routier.

The evaluation team worked in the project area from November 6 through 26, 1976, performing primary and secondary research in Benin, the Ivory Coast, Niger and Togo. Discussions were held with Ministry of Public Works officials in the four countries; members of CERFER's management, instructional, financial and supply staffs; and members of Entente Fund's Council of Administrators, the Aero-Ford contract team, REDSO and RDO. We also spoke with representatives of FAC and FED (other CERFER donor agencies), and supervisors of graduates of the Center. In addition, project and other CERFER-related documentation were reviewed in the four Council of the Entente countries visited, and at AID/Washington.

Unfortunately, one of the assumed key sources of final accomplishment of both the Aero-Ford contract team and achievements of the Center -- the Final Draft Report of Aero-Ford -- was not made available to the evaluation team. We understand that it will be submitted to AID by the end of CY 1976.

The team considered the question of divided location and the extent to which it may have adversely affected development and management of the project. CERFER is located in Lomé, where the AID Project Officer was based...RDO, the overseeing regional AID organization is in Niamey...the recipient of AID assistance, the Entente Fund, is in Abidjan...and CERFER's Council of Administration is scattered among the five Entente states. No problems of import that have arisen would not have occurred had all entities and pertinent parties been located together. The availability of telephone and cable communication within the Entente appears to have overcome significant differences attributable to locational disparity. Misunderstandings that have existed throughout all or a large part of the project (see Section 5 of this report), have been personality, experience and semantically based.

* * * * *

Note: Throughout the report we have converted into dollars sums originally expressed in terms of francs issued by the "Banque Centrale des Etats de l'Afrique de l'Ouest -- the so-called "CFA francs." We have used the same rate of 220 CFA francs to the dollar that is found in AID project documents. This decreases dollar values shown for 1976, when the CFA franc was closer to 250 to the dollar.

2. SUMMARY OF MAJOR FINDINGS AND RECOMMENDATIONS

At the end of November, 1976, as AID prepares to phase out its technical assistance to CERFER (some equipment and minimal technical assistance will be provided in CY 1977), the following situation exists:

CERFER is an operational and reasonably self-sufficient African heavy equipment and road maintenance training center.* The Center's sole and limited purpose is to prepare mechanics, foremen and warehouse/maintenance personnel -- primarily of Entente-country Public Works Departments (PWDs) -- in practical skills for their day-to-day jobs on secondary (unpaved) road equipment. Heavy equipment operators are no longer trained at CERFER. (3-A and 3-B)**

Logistically, CERFER is capable of training approximately 160 students annually and could probably train up to 180. (4-B(4))

*2/20/77
CERFER
4/2/77*
CERFER has a sufficiently bright financial outlook to continue without AID assistance. Its operational budget will be covered by revenues from the Entente states; its investment budget from non-Entente students financed by other African countries, outside donors and, as needed, by services rendered. (4-A(2))

Practically all of CERFER's key institutional outputs were developed in the last 18-24 months of the project. (4-B(2))

*2/20/77
CERFER
4/2/77*
The Center's staff, at all levels, is surprisingly confident of its ability to operate independently of AID advice (i.e., contract advisors). This appears to be a reasonable assumption. (4-B(1)) The techniques used by CERFER to achieve Africanization may have validity for similar transfers of responsibilities in analogous situations. (4-B(5))

* Even though CERFER was a bilateral (Togo/AID) effort from 1964-1970, it has been, from inception, a pan-African institution -- training students from most Francophone and several Anglophone African states. (3-B)

** The symbols that appear in parentheses after statements in this summary indicate the section of the report in which the findings or recommendations are developed.

AID's assistance from 1964 through 1976 totaled \$6.5 million, of which \$4.5 million was obligated during 1970-1976, the period of sponsorship by the Entente Fund. Assistance from two major European donors raised the total received by CERFER to \$9.0 million.* (4-A(2))

During the entire period, the Center graduated 1,370 students; 919 of them between 1970 and 1976. Present cost per student - month approximates \$500 at optimum student levels. AID assistance between 1970 and 1976, including heavy equipment and contract costs, was \$4,930 per student and \$740 per student-month. These costs compare favorably with AID's normal training costs. (4-C(2))

CERFER does not pretend to provide referral or extension services to develop or transfer new technology. Nor is an attempt made to develop common standards for the Entente or to represent it at international conferences. CERFER's management resists change and does little or no evaluation of internal operations or of the impact of its graduates on its sponsoring countries. Its initiative has been hindered by the relationship of the Council of Administration (CERFER's Board of Directors) to the Director General, and the Center's historic dependence on AID and other donors. (4-B(1))

CERFER returning graduates hold significant proportions of jobs in their specialties. Little financial advantage appears to accrue to graduates because of training. (4-D)

Competition does not exist among Entente states for equal shares of CERFER's instructional services. The proportion of Togolese students remains high, but Togolese representation is decreasing and those of other Entente countries are increasing. (3-B)

With minor exceptions, every important specific action proposed in the 1974 PAR and the 1975 PROP has been taken: Africanization of CERFER staff; effective operational and budgetary controls; installation of equipment-use and preventive maintenance systems; repair and sale of usable equipment; evaluation (then abandonment) of the mobile unit concept; revision of courses to make them more practical; and prompt payment of contributions by the Entente states. (4-B(8))

* Data estimated from grants of CFA francs and rounded to the nearest \$100,000.

Goals and subgoals of the project as stated in the PROP have little meaning to the Center at its present stage of development. These goals are difficult to define and measure, and may prove meaningless because important assumptions are erroneous. (4-D and 5)

Specific factors assisting project achievement include: (a) imposition by AID of implementation conditions on disbursement in 1974/1975; (b) an improved basis for instruction and elimination of unfit candidates, through standardized admission requirements and written examinations; and (c) personality and ability of Aero-Ford's last Chief-of-Party. (4-B(4))

Bottlenecks which hindered or slowed project growth include:

- o Lack of burden-sharing and self-help requirements in the Grant Agreements deterred initiative. (5)
- Admin. Control*
o Lack of participation of the recipients at the Council-of-Administration and Director-General level reduced incentives to meet specified objectives. (5) 7 ✓
- X* o Lack of continuing contact with user-countries hampers CERFER's ability to meet their needs. (4-B(4))
- o Requirement that equipment be of U.S. origin, and decision to use Section 608 surplus equipment, reduced training efficiency and diverted instruction. Much of the equipment was not compatible with PWD stocks. (4-B(5))
- o Desire of Entente states to keep experts at home generally restricts CERFER's staff to Togolese. (4-B(5))
- o Differences in donor philosophies resulted in divergent approaches to instruction. (4-B(4))
- Admin. Sec. 2*
o Aero-Ford represented AID, but generally failed to meet contract objectives during first four years. A-F (a) did not recruit on time; (b) had unusually high turnover of advisors (e.g., four Chiefs-of-Party since 1970); (c) lacked specific objectives and procedures at the beginning; and (d) did not develop systems and counterparts until late in the contract. Correspondingly AID failed to hold contractor to the agreement. (5)

*Admin
5/2*

- o Changing number and personalities of CERFER Directors General reduced continuity. The high turnover of both contractor C-O-Ps and CERFER Directors created organizational instability and slowed the process of Africanization. (4-B(5) and 5).
- o Service work and rental of equipment adversely affected instruction. (3-B)

AID in similar projects should coordinate project objectives (PROP) and Technical Service Agreement conditions to assure development of counterparts and systems from the start... (4-B(2))

AID should require entry and exit reports for all contract advisors, consistent with Agreements. (4-B(2))

It would have been wiser to have staggered the phase-out of Aero-Ford advisors so that one management/systems advisor could remain through CY 1977, as a sounding board to CERFER's staff. (5)

More directly project-related use of participant training grants probably would have provided AID with greater returns on its investment. (4-B(4))

Insofar as a need exists in Francophone African states for road equipment maintenance training, CERFER should be considered. AID might include a clause to that effect in pertinent loan agreements. (5)

*Admin
5/2*

CERFER, when practicable, should create position of Deputy Director of Operations, for smoother functioning and continuity. (4-B(1))

CERFER should emphasize evaluation, internally and of graduates, to provide basis for tailoring courses and systems. (4-C(1))

*Admin
5/2*

CERFER should publicize itself more. (4-B(3)) It should consider seminars and demonstrations of its systems for PWD supervisors, to increase dissemination of systems it teaches, and enable returned graduates to increase application of techniques learned. (4-C(1))

Overall conclusion: Despite failure to obtain maximum performance during earlier years, CERFER -- at project end -- represents a worthy AID achievement, measured by other similar institutions and PROP objectives. (4)

3. BACKGROUND: HISTORY OF THE PROJECT

CERFER, as a training institution financed by the Council of the Entente, concentrates its attention on the needs of its five member states: Benin, Ivory Coast, Niger, Togo and Upper Volta. Table 1 atop the next page reveals that, although the states have many similarities resulting from geographical contiguity and a common Francophone, ex-French-colony heritage, they differ more widely in matters that relate directly or indirectly to secondary road systems and ability to support and improve them.

There is a difference of more than 22 times between the size of Togo, the smallest, and Niger, the largest country. The Ivory Coast's population is almost three times that of Togo, and is more than twice that of Benin. Per Capita Income varies from \$602 in the Ivory Coast to \$60 in Upper Volta, with three of the states having a PCI under \$100.

The disparity in road networks between the Ivory Coast and the other countries is especially marked. Togo has only 764 miles of secondary (dirt) roads. Benin, Niger and Upper Volta possess somewhat larger networks, from 1,573 to 2,486 miles, but still relatively small in terms of country size and need. (It will be noted that Niger, because of its large size, has the least advanced secondary road system of all.) Yet the Ivory Coast's 19,885 miles of secondary roads surpass the combined totals of the other four nations by more than three times.

Diversities in country size, population, annual PCI and road networks result in differing country needs.

Table 1. PERTINENT STATISTICS, COUNTRIES OF THE COUNCIL
OF THE ENTENTE

| | Size, square miles | Popula- tion in millions | Per Capita Income | Road Network for which Pub- lic Works Depts Responsible | | | Totals |
|-------------|--------------------------|--------------------------------|-------------------------|--|--------|--------|--------|
| | | | | Paved | Dirt | Piste* | |
| Benin | 43,483 | 2.9 | \$85 | 477 | 1,573 | - | 2,050 |
| Ivory Coast | 124,500 | 6.2 | 602 | 1,243 | 19,885 | 6,835 | 27,963 |
| Niger | 490,000 | 4.5 | 93 | 1,170 | 1,626 | - | 2,796 |
| Togo | 21,854 | 2.2 | 170 | 708 | 764 | - | 1,472 |
| Upper Volta | 106,000 | 5.7 | 60 | 311 | 2,486 | - | 2,797 |

* Seasonally usable dirt roads.

Sources: Size, population and Per Capita Income - Department of State country "Background Notes"; road network mileage - Compte Rendu de Mission Aupres du CERFER, J.L. Fréjacques/FAC, July 1976.

3-A. Project Aims

The Logical Framework Matrix (henceforth Logframe) of the 1975 PROP presents as project goal: improvement of the Entente states' capacity to maintain their road network; and as project purpose: establishment of a viable regional training institution (CERFER) for Entente road maintenance personnel. The 1971 PAR presents as programming goal: reduction of the cost of transportation through improvement of the capability of the Entente states to maintain their road network with their own resources. The 1974 PAR cites as goal: a more efficient and less costly transportation system in and between the Entente states, including improved maintenance of (secondary) roads.

The Aero-Ford Chief-of-Party states the goal in similar terms, although in a wider context: to teach the necessary skills required to maintain the secondary road system in west Africa.

Article 1.2 of the 1970 statutes of CERFER states that the Center's aim is the training of public works personnel in coordination with the various (related) schools that operate in the Council of the Entente.

Privileged users of the Center are the Public Works Departments (PWDs) in the Entente states, with CERFER open to "all other African states", as training slots are available. CERFER's sole aim is teaching various PWD specialties. It does not train trainers and has minimal multiplier effect.

3-B. Changes in Project Emphasis, 1964-1976

We summarize below the nature of the Center and project effort under the three successive AID contractors:

(1) International Road Federation, 1964-1966

The Center was established in the spring of 1964, when AID contracted with the International Road Federation to assist in the establishment and organization of an institution to train government and other personnel from newly independent African countries in the operation, maintenance and repair of various types of heavy earth-moving equipment. According to the final report of the African American Institute, AID's second contractor, the original concept was international in scope, even though bilateral in AID/Togo contract terms.

Table 2 (next page) confirms the pan-African nature of the Center's earliest days. During the International Road Federation contract period, only 26 (18%) of the 148 graduates were Togolese and 67 (45%) were from non-Entente African states. (Analysis of student origin shows that only nine of the 52 graduates in the first two classes of heavy equipment operators and mechanics -- the two subjects taught at the Center -- were from Togo.) AID provided grants for equipment and the maintenance and transportation of the students. Togo made a substantial contribution in the form of land and buildings.

Classes began in September 1964, with the first group of heavy duty equipment (bulldozers, graders and levelers) operators graduating four months later, and the mechanics 13 months later.

Table 2. ORIGIN OF CERFER GRADUATES* UNDER DIFFERENT CONTRACTORS, 1964-1972 - By Entente Country

| | Benin | Ivory Coast | Niger | Togo | Upper Volta | Total Entente | Other African States | TOTALS |
|-------------------------------------|------------|-------------|-----------|------------|-------------|---------------|----------------------|---------------------|
| International Road Fedn, 1964-66 | 21 | 0 | 17 | 26 | 17 | 81 | 67 | 148 |
| African American Institute, 1966-70 | 45 | 8 | 11 | 183 | 31 | 278 | 159 | 437 |
| Aero-Ford, 1970-76 ^{1/} | <u>164</u> | <u>52</u> | <u>87</u> | <u>216</u> | <u>76</u> | <u>595</u> | <u>164</u> | <u>759</u> |
| TOTALS | 230 | 60 | 115 | 425 | 124 | 954 | 390 | 1,344 ^{2/} |

^{1/} Totals for Aero-Ford do not include 2nd Session, 1976.

^{2/} Two graduates, one French and one American are excluded from the totals.

Sources: CERFER; Final Report of African American Institute

(2) African American Institute, 1966-1970

Under AAI, the Center was called CEFEL (Centre de Formation pour Equipments Lourds) in French, and RHEC (Regional Heavy Equipment Training Center) in English.

It was a teaching and operating center.** AAI's instructors did the teaching; they were not trainers of African instructors. AAI also assisted in student recruiting.

* CERFER files reportedly show a student dropout rate of less than 2% -- a surprisingly low figure which could result from the fact that the great majority of students are government (primarily PWD) employees who are selected for training in specialties they know, and who return upon graduation to the workshops from which they came.

** During the early days of the project, the Center generated revenues by performing services for outsiders and by renting equipment. The practices were later abandoned, primarily because of their adverse effects on instruction.

Figure 1. ORIGIN OF CERFER GRADUATES
UNDER DIFFERENT
CONTRACTORS, 1964-1976

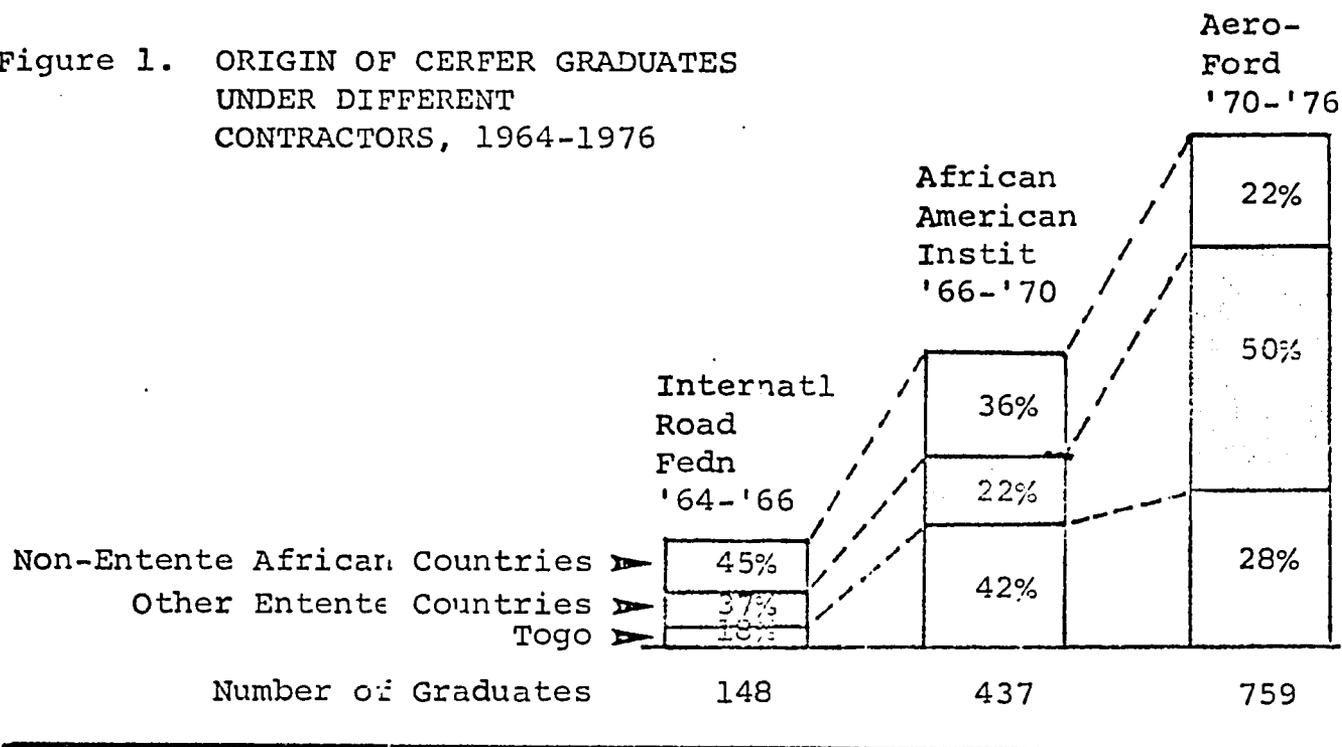


Table 2 and Figure 1 confirm the pan-African coverage of the Center from its third through sixth years. Thirty-six percent of its graduates came from 12 non-Entente states,* while an additional 22% came from Entente states other than Togo. During AAI's contract, however, the percentage of Togolese did rise markedly to 42% of total enrollment, more than twice the proportion under the previous contractor.

* CERFER course/student records reveal that Africans from the following 17 non-Entente countries have attended the Center: Burundi, Cameroun, Central African Republic, Chad, Congo (Brazzaville), Gabon, Gambia, Ghana, Liberia, Malagasy Republic, Mali, Mauritania, Nigeria, Ruanda, Senegal Sierra Leone and Zaire.

(3) Aeronutronic Ford, 1970-1976*

During the latter part of AAI's stewardship, AID, seeking indigenous sponsorship for the Center from among functioning African agencies, entered into discussions with the Council of the Entente. On 30 June 1969, AID and the Council of Administration of the Entente signed an agreement focusing the Center's attention on the Entente states. CERFER was created by the five states in May 1970. Aero-Ford commenced contract services later that year with a complement of 14. Its contract called for the firm to build a self-sufficient African institution. X

Figure 1 shows that the proportion of non-Entente-state African graduates has diminished during Entente direction to 22% of the total. Student vacancies are offered in descending priority to (1) personnel of the PWDs of the Entente states; (2) other agencies of those states; and (3) departmental personnel of other African countries. During the past six years, the proportion of students from the Entente states rose to 78% of total, from 55% and 64% respectively under the first two AID contractors. However, the proportion of students from Togo has dropped markedly under Entente control: from 42% of total in 1966-1970, to 28% in 1970-1976.

criteria: { The governments sending students to CERFER decide who will apply. Recruitment in the Entente states is supervised by the two local members of the Council of Administration (see 4-B(1)). Since, as we note, they hold responsible positions in their country's PWDs, they are in a position to provide candidates according to their country's needs and its PWD program.

Over the 13-year history of the project, 61% of CERFER graduates have come from PWDs, and 11% have come from other non-military governmental services. Almost 18% of graduates have come from the armed forces of the countries sending students; many of these have taken the heavy equipment operator courses which (see Section 4-B(4) of this report) will no longer be offered by the Center.

* Originally Philco-Ford

In order to fill classes to optimum size. CERFER, mainly between 1967 and 1974, admitted students who worked for private firms (many in the Lome area) or who enrolled as individuals. Although such students paid for their instruction, their presence was deemed unproductive to the instructional effort, and few private students have attended the school since 1975. Most private students enrolled for the operators' and mechanics' courses; they account for 10.5% of graduates to date.

Table 3 (next page) shows the number of graduates by year. A total of 1,346 have graduated, through the first session of the 1976 school year. Beginning in 1974 the method of instruction (discussed in Section 4-B(4) changed, resulting in an enrollment that is inferior to the average for the preceding four years. The total for 1974 is particularly low, because the change took place at that time.

Major CERFER donors during the period of the Aero-Ford contract have been:

- o The Entente Fund: The Entente states pay equal portions of the operating budget. See Section 4-A(1).
- o AID: The contract services of Aero-Ford; scholarships (stipends for students attending CERFER, U.S. participant training, Scholarship Trust Fund), commodities (heavy equipment, spare parts, training commodities), and training support aids.
- o FAC (French bilateral aid): Instructors, scholarships for students attending CERFER, and commodities.
- o FED (European Community aid): construction of dormitory for CERFER students, instructors and technical assistance.
- o Entente countries: Council of Administration and some instructor personnel free-of-charge. Togo also has provided CERFER's original land and facilities and administrative personnel paid by the Center.

Table 3. NUMBER OF GRADUATES AT CERFER, BY YEAR, 1965-1976 1/

| | | | |
|------------|------------|-------------|-------------------|
| 1965 - 61 | 1969 - 107 | 1973 - 171 | Total, 1965-1976: |
| 1966 - 95 | 1970 - 149 | 1974 - 47 | 1,346 students** |
| 1967 - 103 | 1971 - 155 | 1975 - 115 | |
| 1968 - 85 | 1972 - 156 | 1976 - 102* | |

* 1976 total does not include those attending the second session of the school year.

** Includes: two non-Africans, one French, one American.

Source: CERFER

1/ Student totals appearing in this report come mainly from published statistics covering CERFER. Spot checks with lists showing student enrollment by name by course reveal that accepted global statistics are occasionally in error. The evaluation team did not have time to thoroughly check such data with source material, but suggests that care be observed in relying on them too closely.

4. LESSONS LEARNED: CERFER'S AND AID'S FUTURE OBJECTIVES

We noted earlier that, because the CERFER project is ending in terms of AID commitment -- and this analysis is ex post facto in nature -- we also have sought to draw more general lessons from the CERFER experience for related projects. Accordingly we have redesigned the Logframe, basing it on the project design of the 1975 PROP, but adapting it to distinguish between indicators showing achievement or performance by CERFER at the end-of-project (1976) and those performance indicators not intended to be met by CERFER, but which other, related AID-sponsored training institutions might find desirable.

The Logframe is shown in Figure 3, which covers the last four pages of this report. Its shaded parts cover the performance areas that might have been expected of other AID-sponsored training institutions, but are not anticipated in the case of the atypical Center at Lomé:

- o Training institutions generally provide instruction, referral services and diffusion of technology (extension), and research or new technology. CERFER differs from the norm because it is only intended to provide instruction.
- o Regional training centers often help bring about standardization in their members' operations, systems and/or controls. CERFER is not conceived as an organization to bring this about.

To assist CERFER in the future, as well as to provide AID with a conceptual framework of the past, we use the 1976 end-of-project indicators (which would appear in Column 2 of the Logframe) as the baseline for the subsequent five-year targets (which appear in Column 3 of the Logframe).

Finally, through use of the device of shaded areas, the Logframe concurrently provides a guide for AID in the larger sense, describing additional indicators the agency can use when considering future training and/or regional projects.

4-A. Inputs (Page 4 of Logframe)

4-A. (1). External Assistance 1970-1976

AID assistance to the Entente Fund for CERFER was scheduled at slightly over \$5,250,000 from FY 1970-1976. Half of the total was in technical services through Aero-Ford; slightly less than \$1,700,000 was for equipment and spare parts; and almost \$1,000,000 was for scholarships to cover tuition and student expenses. (See Table 4, following page). Over the seven years, AID deobligated \$610,000 when an unsuccessful mobile equipment training course was dropped, and an additional \$125,000 in other categories. Thus, for the period when CERFER was being formed into a self-sufficient African institution, AID provided a net sum of about \$4,500,000.

For the preceding FY 1964-1968 period, AID provided CERFER's predecessor CEFEL with \$484,000 in cash and in kind on a bilateral basis. When combined with \$1,400,000 provided in FY 1969, AID support over the 13-year life of the Center totals almost \$6,500,000.*

In May 1974, FED signed a grant agreement with the Entente Fund to provide \$1,000,000 for the construction and equipping of a dormitory/restaurant with capacity to house and feed 150 to 160 students during the school year. The cost of the building, now almost complete, is estimated at some \$320,000 below that figure. FED additionally has given \$116,000 for instructors' salaries and training aids, thus having provided to date approximately \$800,000.** FED has indicated willingness to continue assistance into the future.

FAC is the third major foreign donor to CERFER. Over the life of the project, it has supplied \$675,000 for instructors' salaries, student scholarships and equipment. FAC is thought willing to continue assistance at its present rate of \$45,000 per annum. In total FED and FAC have provided almost \$1,500,000 between 1970 and 1976.

From 1972 -- when the Entente Fund countries began giving positive and increasing financial support to CERFER--through 1976, the five have contributed a joint total of about \$1,000,000. Annual contributions increased from \$13,500 each in 1972 to \$80,000 each in 1976. The 1977 contribution will be \$90,000 each.

* RDO, using U-203 reports, shows total obligations through September 1976 as: Contract Services \$3,299,000, Commodities \$2,059,000, Training \$661,000 and Other \$433,000 -- for a total of \$6,452,000.

** It is not clear whether the \$116,000 is included in the original agreement, or is in addition to the agreement.

Table 4. AID ASSISTANCE TO CERFER, 1970-1976 (in thousands of dollars)

| Fiscal Year | Total | | Technical Services | | Equipment | | | Spare Parts | | | Scholarships (Student Stipends) | | Participants to the U.S. | | Other | |
|-------------|-----------------|-------------------|--------------------|--------|-----------------|------------|-------------|-----------------|------------|-------------|---------------------------------|--------|--------------------------|--------|-----------------|--------|
| | Grant Agreement | Actual | Grant Agreement | Actual | Grant Agreement | Actual New | 608 Surplus | Grant Agreement | Actual New | 608 Surplus | Grant Agreement | Actual | Grant Agreement | Actual | Grant Agreement | Actual |
| 1976 | 815 | 815 | 570 | 570 | - | - | - | - | - | - | 115 | 115 | 60 | 60 | 70 | 70 |
| 1975 | 1,538 | 1,538 | 695 | 695 | 570 | 570 | - | 100 | 100 | - | 173 | 173 | - | - | - | - |
| 1974 | 120 | 120 | 120 | 120 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1973 | 746 | 446 ^{1/} | 300 | 300 | 300 | <u>1/</u> | - | - | - | - | 125 | 125 | 21 | 21 | - | - |
| 1972 | 950 | 640 ^{2/} | 425 | 425 | 310 | <u>-2/</u> | - | - | - | - | 130 | 130 | 35 | 35 | 50 | 50 |
| 1971 | 698 | 773 | 360 | 310 | - | - | - | 343 | 125 | 208 | 130 | 130 | - | - | 65 | - |
| 1970 | 200 | 200 | - | - | - | - | - | 75 | - | 75 | 125 | 125 | - | - | - | - |
| 1970-76 | 5,267 | 4,532 | 2,470 | 2,420 | 1,180 | 570 | - | 518 | 225 | 283 | 798 | 798 | 116 | 116 | 185 | 120 |

^{1/} \$300,000 of mobile unit equipment deobligated in FY 1973.

^{2/} \$310,000 of mobile unit equipment deobligated in FY 1972.

In total, therefore, the assistance received by CERFER from foreign donors and the Entente states amounted to some \$7,000,000 from 1970 through 1976. With the revenues formerly received by the Center for contract work (which paid for new and remodeled buildings) -- but not including the value of the donation of land and original buildings by the Government of Togo -- the amount received by the Center since its inception as an AID project reaches \$9,000,000.

4-A(2). Future Inputs and Budget 1977-1981*

We note above that the 1977 contribution of each Entente state will be \$90,000. This amount is expected to cover the operating budget for the Center and to cover the cost of 100 students from the five countries -- their projected training requirements (see Section 4-B(3)). For the period from 1978 through 1981, CERFER projects no increase in Entente-state contributions, anticipating instead that increased costs will be covered from other sources. Its financial projections for the period follow:

Table 5. CERFER's FINANCIAL PROJECTIONS, 1977-1981
(in thousands of dollars)

| | <u>1977</u> | <u>1978</u> | <u>1979</u> | <u>1980</u> | <u>1981</u> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| <u>Expenses</u> | | | | | |
| Operational | 459 | 506 | 555 | 622 | 695 |
| Amortization of Equipmt | 268 | 262 | 258 | 256 | 260 |
| Total | <u>727</u> | <u>768</u> | <u>813</u> | <u>878</u> | <u>955</u> |
| <u>Revenues</u> | | | | | |
| Member States | 455 | 455 | 455 | 455 | 455 |
| Non-Entente Students | 272 | 313 | 358 | 423 | 500 |
| | <u>727</u> | <u>768</u> | <u>813</u> | <u>878</u> | <u>955</u> |

Source: Aero-Ford

Had the Entente states opted to cover all of CERFER's operational needs by 1981, each would be contributing \$139,000 that year.

* The subject of potential sporadic and hoc AID assistance to CERFER in 1977 is covered in Section 3 of the report.

CERFER's investment budget (i.e., its reserve for replacing equipment) is expected to be more than covered by payments for non-Entente students. We note above that this means 50 to 60 in addition to the 100 expected from the five Entente states. There are several sources from which the non-Entente student payments can be obtained: directly from African governments which pay their students' tuition; from AID regional organizations and Missions; from other donor agencies; and from private firms. At worst, CERFER can seek road and equipment-repair contracts in Togo which are consistent with its training requirements. No outside contracts are contemplated at present; the Center had an unfortunate experience with that revenue source in the recent past, although the practice was an important source of revenue during its earlier phases.

Because of a recent bunching of collection of overdue^{***} accounts receivable (e.g., Benin recently paid in one lump sum its past three years' contributions), cash on hand going into CY 1977 is expected to be about \$65,000 -- a sum that will be available to cover shortfalls that may occur in 1977 and possibly in 1978, before the regular receipt of funds covering non-Entente students.

As of October 1976, accounts receivable from Chad, Ghana, Nigeria and Sierra Leone amounted to \$60,000. The debts appear to have accumulated after AID in those countries phased out of third-country participant training programs. Until the debts are paid, CERFER will accept no new students from the four cited nations.*

CERFER's projected operating budgets consist of three major expense categories: administration (57.5% of the total), instruction (22.5% of total), and equipment (20% of total). Administrative costs include student room and board at the dormitory, and salaries of administrative and support staff. Aero-Ford places G&A overhead at 10%-15%; we could not verify this.

4-B. Outputs: CERFER as an Institution (Page 3 of Logframe)

From 1970 through 1976, CERFER has had an opportunity to develop all the basic organization and management, systems, training programs and physical infrastructure common to training institutions. We indicate in the Logframe those elements which are successfully in place as of the end of the AID project and (in shaded areas) those

* If CERFER develops English-language course capability in the future, Anglophone countries might be likely applicants for student slots. At that time, AID may wish to work out an arrangement with CERFER and the countries involved, to settle the matter.

which have not yet been achieved -- providing both a picture of accomplishments and of remaining desirable indicators for 1977-1981.

(See Section 4-B(8), below, for an exposition of the major actions and achievements for FY 1975 and FY 1976 called for in the last PAR and PROP).

4-B(1). Organization and Management

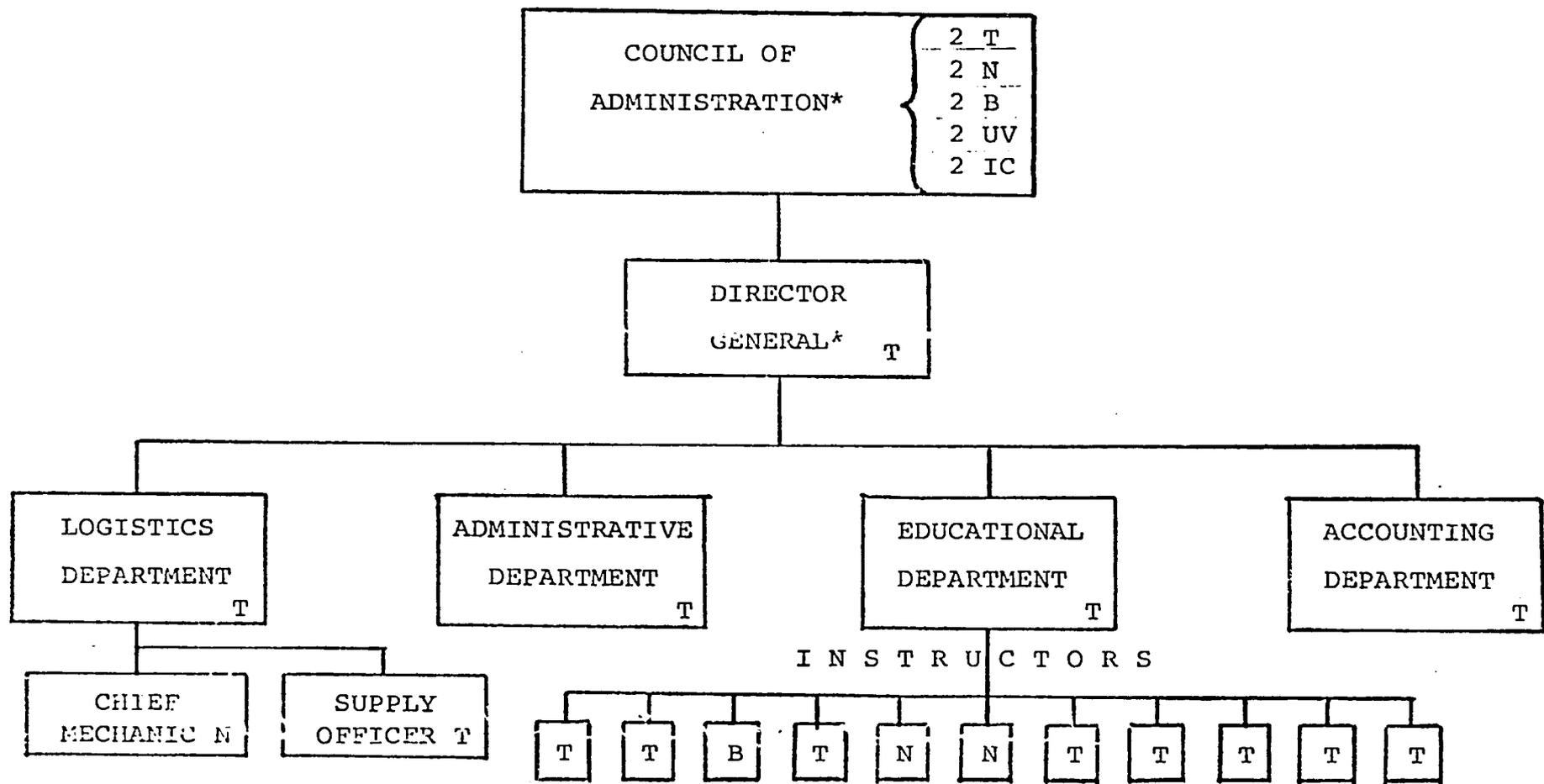
CERFER is simply organized along functional lines -- see Figure 2, next page. The Entente Fund provides a political base for the Center and other joint activities of the five states. The Entente basically serves as a conduit for the receipt of funds from external and internal sources, and provides a forum for discussion of common actions and problems.

The first active level of CERFER authority and responsibility is its Council of Administration. The Council is the policy making body which determines what CERFER will do, recruits major personnel, approves budgets, and determines changes in instruction from year to year. It consists of two representatives from the PWD of each member state. The CERFER Council meets annually in October and reaches common agreement on policy decisions. Formal votes are not taken. Observers from donor organizations are present at the annual meeting. The chairmanship of the Council rotates annually.

The Council has a Managing Committee -- composed of one Council member from Benin, the Ivory Coast, and Togo -- whose mandate is to keep in contact with the Director General on a continuing basis. In practice, it appears to limit its contact to an annual February meeting.

To date, the Council of Administration has been a strong initiator and decision-making body. It has kept the functions of CERFER simple and strictly limited to instruction in basic maintenance and repair, for the most part. Its part-time members have shown no interest in involving themselves in day-to-day activities of the Center or in formal evaluation.

By statute, the Director General must be a qualified civil engineer. He administers policy and is the on-site managerial authority at CERFER. By tacit agreement, he is Togolese, selected from that



Origin of Africans:

- T = Togo
- N = Niger
- B = Benin**
- UV = Upper Volta
- IC = Ivory Coast

Figure 2. ORGANIZATION OF CERFER (Showing positions, formerly held by expatriate counterparts, that are now held by Africans)

Notes: * The members of the Council of Administration and the Director General have always been Africans.
 ** Scheduled to arrive.

country's PWD. Organizationally, the Director plans and reviews the activities of CERFER, and provides liaison with the Council of Administration, Entente-state PWDs, and donor organizations. He provides the Center's primary link to the Government of Togo, site of the institution. He is responsible for developing the annual budget. In his absence, the de facto acting director is the Chief of the Administration Department, who makes no major decisions on his own. There have been four Directors of the Center since its inception -- three of whom have served while it has been sponsored by the Entente Fund. The current Director has headed the school for three years.

CERFER is organized into four functional departments, two of which are pure support operations: Accounting and Administration. The Educational Department is the heart of the Center, providing instruction to trainees. The Logistics Department maintains CERFER's equipment and provides on-the-job training in repairs, procurement, warehousing and maintenance. All department heads are Togolese civil servants, seconded from their country's PWD.

The head of the Repair Section of the Logistics Department is a Nigerien. The role and composition of CERFER's instructional staff are discussed in 4-B(3), below.

In reviewing the operations of CERFER and discussing with CERFER personnel their functions within the institution, we were impressed by their confidence in their ability to perform assigned duties, especially at the departmental level. In practice, the departments appear to operate fairly independently of the Director, with little direction from him. In the past, this may have reflected their easy access to the AID contract team which is scheduled to depart at the end of November, 1976.

The organization is weakened at the Director's level because the diverse functions imposed on him may require the talents of more than a single person. He is supposed to head public relations, liaison, and planning, while at the same time being the key decision-maker and controller of daily operations. Some time in the future, when CERFER introduces more advanced and varied instruction, and is assured of revenue at its budgeted levels, it should consider recruiting a Deputy Director for Operations to release the Director from his preoccupation with details and permit him to pursue with greater vigor the creative aspects of his position.

Further internationalization of CERFER's administrative and support staffs -- and the concomitant rise in the proportion of contract personnel -- will give the Director greater control over staff quality and enable him to make systematic reviews of position functions.

His technical background, personality and the alternatives available to the Director, play a key role in his relations with the Council of Administration and the initiatives he undertakes. By statute, however, he is the policy implementer, while the Council is the initiator. A stronger Director might equalize these roles somewhat.

4-B(2). Management and Equipment Maintenance Systems and Standards

Underlying the Center's attainment of self-sufficiency and efficiency is its institutionalization of systematic financial management and equipment maintenance controls. Aero-Ford has devoted much of its effort during the last 18 months to the elaboration of information retrieval systems and installation of preventive maintenance schedules.

Budgets are now prepared on a monthly basis, rather than every four months as before. The budget for the year -- prepared in early January -- is tied to monthly projections of expenses and outputs for each department. Actual versus planned figures are gathered monthly by the Accounting Department and submitted to the Director for review and action. Significant differences are then discussed with those responsible, and adjustments made as desirable. This innovation has proven particularly helpful to CERFER, which has cash flow problems arising out of intermittent receipts of revenues. The detailed data also ease review of budget submissions by the Council of Administration.

A new Aero-Ford-developed system to ensure proper maintenance of vehicles and equipment is now a regular part of the daily activity of the Logistics Department. It includes simplification of stocked spare parts; statistically measured downtime for each piece of equipment; and required use of standardized procedures and forms. The system also has been integrated into the instructional activity.

It is unclear why the systems and training of counterparts were not instituted from the start. It was only when their development and implementation were made a condition of AID's release of funds, that they were finally evolved. Much recent progress also must be attributed to Aero-Ford's last Chief-of-Party, who is heavily systems oriented and who established close working relationships with his staff and counterparts.

We recommend that AID in the future require all U.S. contractors to provide detailed written procedures for each major activity area

for which they are responsible from inception-of-project; and that grant agreements require acceptance and implementation of such procedures and systems within a reasonable period (e.g., the second contract year). This is one of the most important lessons to be learned from the CERFER experience.

We further recommend that agreements with contractors require that every advisor prepare written entry and exit reports which detail problems to be solved, objectives to be attained, and degree of success achieved. Where the country or regional situation is unclear initially, entry reports might be required after an orientation period. Such reports -- never required of Aero-Ford -- would have been of help to AID in evaluating progress during the life of the project, and in a wider context, can help avoid the retention (or assist in the redirection) of ineffective/unproductive AID contract employees.

The evaluation team found that the PWDs of the Entente countries use maintenance systems that, although based on French practice, vary somewhat from one to another state. In some cases, the systems have been developed recently by expatriate technical advisors attached to the PWDs through IBRD-funded contracts. The IBRD-funded advisors focus on operations as distinguished from training, and have developed different standards of organization and different types of inventory control.

CERFER has made little attempt to compare its systems with those of the PWDs, or to expose its systems to them.

The Center has not yet installed a methodical periodic review of its new management and equipment maintenance systems. This may be too early to expect at this time. The development of a review methodology in a year or so may require outside assistance.

It appears to us that the specificity and detail with which CERFER's new management and equipment maintenance systems have been developed is a main factor underlying the confidence expressed by the support staff (from Department Chiefs down) in their ability to carry on after the imminent departure of the remaining Aero-Ford advisors. (Other bases of confidence also reside, of course, in the Center's lack of funding problems, and in the limited instructional objectives of the institution).

4-B(3). Public Relations, Communication and Recruitment

If CERFER depends on non-Entente student fees to fill its capacity, reduce its cost per student-month, and compensate for depreciating equipment (see 4-A(2)) what is it doing to induce other African countries to use its facilities? The answer is "practically nothing". CERFER has been so dependent on AID and other international donor agencies since its inception that it appears to expect those agencies to continue providing students and other forms of assistance as the normal course of events.

CERFER's management has not publicized the availability of its courses and facilities to non-Entente states. While the school has developed a terse mimeographed description of courses offered during 1977, it is taking no steps to build a mailing list, distribute the listing to pertinent governmental organizations, gain recognition through participation in pertinent African conferences, or similar activity.

We recommend that CERFER prepare a still-inexpensive but more comprehensive brochure citing the various areas of information which prospective students and student-sponsors want to know. The brochure should be sent in quantity to PWDs and other potential governmental agencies throughout Francophone Africa; to all African USAID's, AID regional offices in Africa, AID/W/AFR and Training; to other donor and potential-donor agencies; and to road equipment-oriented organizations and associations.

The brochure should invite inquiries about specific courses, for which detailed syllabi should be prepared for followup distribution.

CERFER counts upon AID to fill up to 15 student slots annually under the African Manpower Training Project, and perhaps an equal number of students from the Sahel rural road program. It does not realize that, unlike the past -- when AID scholarship funds paid for a quantity of students from Entente states, these new, non-CERFER-connected projects pay for particular students only if they choose to attend CERFER. There is no assurance in advance that planned-for numbers of students will apply or, being available, are proficient in French and can pass the Center's formal entrance examination.

4-B(4). Instruction, Courses, and Future Training Requirements

When the Aero-Ford contract team arrived in 1970, courses were still limited to the two with which instruction at the Center had begun: a short (3-4 month) Heavy Duty Equipment Operators course, and a 14-15 month course for Mechanics, plus three others. The 11-month Operators' Crew Chief course was added in late 1967, one for Diesel Injection Pumps (8 months) in mid-1969, and one for Electricians (6 months) in early 1970. Under Aero-Ford, additional courses were developed, until, at the time of the contractor's departure, 13 were offered.

- o For Heavy Equipment Mechanics:
 - Heavy Equipment Mechanics, Level 1
 - Heavy Equipment Mechanics, Level 2
 - Mechanic-Foremen (Chief Mechanics)

- o For Mechanical Specialties
 - Engine Specialist
 - Machine Shop
 - Mechanics/Auto Engine Motors
 - Diesel Injection & Hydraulics
 - Spare Parts Supply and Warehousing

- o For Road Specialists
 - Road Section Chief
 - Soils Lab Technician

- o For Heavy Duty Equipment Operation
 - Operator - Bulldozer/Scraper
 - Operator - Grader
 - Operators' Crew Chief

All except the two Operators courses and that for Spare Parts Supply and warehousing are of 11 months duration. The cited three have been five-month courses.

Table 6, on the following page, details the 13 courses into major subject areas, and indicates hours of instruction in each area.

The role of CERFER is, as we noted earlier, to provide practical instruction to personnel (primarily PWD) of Entente and other African countries in skills needed to maintain secondary road systems. The Administrative Secretary of the Council of the Entente

TABLE 6. COURSES AND MAJOR SUBJECT AREAS - CERFER, 1976 SCHOOL YEAR (in number of hours of instruction)

Source: "Programmes des Cours", CERFER

| | Heavy Equipment Mechanics | | | Mechanical Specialists | | | | | Road Specialists | | Operators | | |
|--|----------------------------------|----------------------------------|------------------|------------------------|-----------|-------------------------------------|-------------------------------|-------------------------|--------------------|----------------------|-------------------------------|---------------------|-----------------------|
| | Heavy Equipment Mechanic Level 1 | Heavy Equipment Mechanic Level 2 | Mechanic-Foreman | Engine Specialist | Machinist | Auto Engine Electricity & Rewinding | Diesel Injection & Hydraulics | Spare Parts Warehousing | Road Section Chief | Soils Lab Technician | Operator-Bulldozer-Scrapper * | Operator - Grader * | Operators' Crew Chief |
| Orientation | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Shop Procedure | 12 | 18 | 30 | 18 | | | | | | | | | |
| Practical Work In The Shop | 100 | | | 64 | | | | | | | | | |
| Applied Mathematics/ Shop. Math. | | | | | 78 | 162 | 156 | | | | | | |
| Driving | 60 | 30 | 30 | | | | | | | | | | |
| Maintenance, Basic | 60 | 36 | | | | | | | | | 54 | 54 | |
| Mtce, Repair, Diagnosis, Inspection | | | 60 | 414 | | | | | | | | | |
| Oil Motors | | | | 360 | | | | | | | | | |
| Diesel Motors | | | | 432 | | | | | | | | | |
| Accessory Repair | | | | 30 | | | | | | | | | |
| Mechanics | 648 | 870 | 702 | | | | | | | | | | |
| Supply | | | 30 | | | | | | | | | | |
| Use Of Other Sources | | | 24 | | | | | | | | | | |
| Supervision | | | 30 | | | | | | 60 | | | | |
| Machinet Skills (10 subjects) | | | | | 1,260 | | | | | | | | |
| Electrical Special Subjects | | | | | | 1,118 | | | | | | | |
| Diesel/Hydraulic Subjects | | | | | | | | | | | | | |
| Supply Specializations | | | | | | | | 618* | | | | | |
| Workshop Visits | | | | | | | | | 40 | | | | |
| Road Section Chief Spec. Subjects | | | | | | | | 716 | | | | | |
| Soils Special Subjects | | | | | | | | | 1,177 | | | | |
| Driving, Familiarization & Elementary Techniques | | | | | | | | | | 90 | 90 | | |
| Field Work | | | | | | | | | | 474 | 474 | | |
| Special Crew Chief Subjects | | | | | | | | | | | | | 1,338 |
| Practical Work | 348 | 324 | 376 | | | | 1,152 | | 522 | 261 | | | |
| Course Revision/Exams | 60 | 60 | 60 | | | 30 | 30 | | | | | | |
| * Course not to be given in 1977 school year. | 1,350 | 1,350 | 1,350 | 1,350 | 1,350 | 1,350 | 1,350 | 630 | 1,350 | 1,350 | 630 | 630 | 1,350 |

states that the Center is used to each specialized courses to unspecialized personnel who have been trained in their country of origin; and to teach courses where expertise is lacking in-country (e.g., Road Section Chief, Soils Lab Technician).

During the first half of Aero-Ford's contract, the same course used different instructors, each of whom taught a "cycle" or related group of subjects. Courses and cycles had staggered starts, enabling students who failed a particular cycle to repeat it at another time. The system, however caused great logistical and pedagogical problems -- especially in light of Aero-Ford having expanded the number of courses to 14 after a 1970 colloquium on training. Aero-Ford reports that it had inherited what was essentially a French instructional system that stressed knowledge rather than practical skills, and that the change had to be achieved slowly because of the Entente states' French cultural and educational heritage.

In the latter part of 1973, Aero-Ford recommended (1) adoption of a unified entry date, with courses beginning in September, (2) inauguration of a policy of one instructor per course, and (3) concomitant elimination of the system of cycles. The change took place during Calendar 1974. The multiple-entry, cycled courses phased out during the first seven months of that year. The unified-entry date courses began in September 1974. (That is the reason for the low student enrollment (47) for that year.)* At present, the academic year runs from January through November, with all courses 11 months long, except for the five-month courses, which have had two sessions per year.**

Examinations have been developed and are used for all except the operators courses, whose students have been asked to demonstrate ability to read and write in French, and to possess a truck driver's license. The previous CERFER practices of accepting nominated applicants and/or "leaning over backwards" in order to help equalize country representation has been abandoned as unfair to the instructors, who must have relative homogeneity in student ability; or the participating countries, which lack sufficient road maintenance skills. Realistic entrance requirements have

* See Table 3.

** Under the September-thru-July school year, the FAC-sponsored instructors alone received a 2-month vacation (July-August), causing advisor doubling-up in July. A potential danger in multi-donor situations, and true in the case of CERFER, is the tenuous control advisors from one donor have over advisors of another.

been set and are reportedly adhered to. Neither the Aero-Ford nor Council of Administration members with whom we talked report significant dissatisfaction when specific-country applicants are rejected in favor of more qualified candidates elsewhere. Class size generally runs between 8 and 12, a number that enables instructors to work closely with students, and personalize instruction.

In face of the imminent end of U.S. aid, the Entente states raised their contributions to CERFER's operating budget, and the Council of Administration decided to drop the two Operators courses (bulldozer/scrapper, and leveler) which, because of their heavy investment in required equipment, are relatively costly. Operators tend to be trained in-country, either at national centers or on-the-job. Perusal of student-origin-by-course data reveals that high proportions of Operator course enrollment for the past several years at least have consisted of military personnel and individuals from the private sector, and indicating to the evaluators that the courses might well have been dropped earlier.* (1977 will be the first year during which the Center has lacked an Operators' course).

The Fréjacques report confirms our finding, after discussions with members of the Council of Administrators and PWDs of the Entente states, that users are generally positive in their estimate of the worth and nature of the courses offered at CERFER. They report that graduates have better technical ability than before. Dissatisfaction centers on the Supply/warehousing course (even in Togo, we found DPW criticism of it), and that for Road Section Chiefs.

Criticism concerning length of courses revolves surprisingly, around a feeling that some of the 11-month courses are too short. The Director of Togo's PWD says that the Mechanic and Mechanic-Foremen courses should be 2-3 months longer; a recent communication to REDSO reporting Gabon's opinion of CERFER suggests that

* The two countries most affected by the elimination are Togo and Benin, both of which have provided many students for the Operators courses -- large numbers of them from the armed forces.

the Operators' Crew Chief course should be two years in length.* Niger's PWD feels the warehousing course is too short.

A significant and valid criticism of CERFER -- yet one that is beyond its control -- concerns its inability to provide a recognized diploma, which under the French educational system enables the holder to rise to a higher position and reap financial advantages more easily in most Francophone African states.

Other criticisms result from the differing career requirements of countries which send students to the Center. Thus Gabon, not a member of the Entente, has a PWD salary structure that requires longer training in CERFER-type courses than the Center offers. The result: Gabonese graduates do not qualify for higher positions and salaries.

comment [Perhaps the most consistent charge leveled against CERFER is its lack of communication with users. The Center appears to have no policy of keeping in touch with users, even with PWDs of Entente states, or the PWD of Togo itself. The director of Togo's PWD mechanical repairs and spare parts warehouse -- located directly adjacent to CERFER -- reports that he knows little of the Center, and that his contact is chiefly limited to hosting CERFER students who visit his warehouse. He, and others we interviewed, indicate that CERFER must be in close, continuing contact with user PWDs, to better learn their needs, and country-realities in terms of course content, in order to be more helpful. The Gabon critique reports that information about training at the Center has been incomplete and that it has not responded to correspondence requesting clarification and additional information! CERFER cannot reach its full potential unless it improves its back-and-forth contact with users.

* Gabon's reply is equivocal and course-related criticism must be discounted in part. Records indicate that only one Gabonese has taken the Operators' Crew Chief course, and that was in 1971, before CERFER's instructional methodology was changed. Gabon's PWD says that Operator graduates have improved ability to organize work, but have aversion to actually operating equipment. Gabon appears to have had 21 Operator students at CERFER (none after 1971), but omits mention of 37 Mechanic & 9 Mechanic-Chiefs who attended. It says it is ending participation in CERFER by October 1977, by which time it will be operating its own training center. Yet, it complains that most of its candidates are rejected, and plans to forward 20 applications to CERFER in 1976 and perhaps in 1977.

We did not interview CERFER graduates. However, Fréjacques, who did on his recent survey for the Council of the Entente reports that students are positive. Those with whom he spoke recognize having learned much from the courses. A certain number of CERFER graduates have always returned to pursue more advanced courses. These repeaters attest to continually improving courses and equipment.

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W. 11/17

Table 4, "AID Assistance to CERFER", reveals that the agency spent \$116,000 between 1972 and 1976 to send participants to the U.S. for training. Analysis of the figures shows, however, that the participant training grants under the project did not go to CERFER instructors, or even to its support and administrative staffs. Instead the funds were used to send middle management PWD officials to the U.S. The \$116,000 expenditure thus had no direct connection with the project. A more project-related use of the funds (e.g., to train CERFER staff and potential staff in the U.S.) probably would have represented a more remunerative investment.

Future Training Requirements

Approximately 115 students have been graduated annually from CERFER during the last two years. The FED-donated dormitory was built to house 150 students. Until its recent opening, the billeting of non-Togolese students had been a logistical problem that, at times, served to circumscribe the capacity of the institution. There are two sets of Supply/Warehousemen graduates per year; thus annual capacity of the dormitory is about 160. In view of the fact that students from Comé and Togolese military have not been permitted to lodge at the dormitory, the Center can be considered to have a housing capacity in excess of 180. The physical plant of the school requires little if any expansion to handle the increased enrollment.

Current needs of the Entente countries appear to be significantly lower than the above totals. The Council of the Entente asked Fréjacques to investigate current needs among the PWDs of the Entente States for skills covered by the 11 courses which CERFER is offering during 1977. He arrived at the following totals:

| <u>Specialty</u> | <u>Need per Year</u> |
|------------------------------|----------------------|
| Level 1 and 2 mechanics | 17.0 |
| Mechanic foremen | 8.5 |
| Hydraulic/injection | 12.0 |
| Engine specialists | 7.5 |
| Auto engine electrical spec. | 7.0 |
| Machinists | 6.0 |
| Supply warehousemen | 9.0 |
| Road maintenance specialists | 16.0 |
| Operator team chiefs | 10.0 |
| Soils lab technicians | <u>5.0</u> |
| Total | 98.0 |

Fréjacques concluded that his figures prove that space exists for personnel from other services in the governments of the Entente states, and for students from other African countries.

4-B(5). Africanization

From its earliest days, a primary objective of the six-year-old AID/Aero-Ford contract has been the institutionalization and Africanization of CERFER. It has been Aero-Ford's mandate to train Africans to take over the Center's operations and eliminate the need for foreigners. During the past 13 months of the contract, institutionalization and Africanization have proceeded under "forced draft". The 1975 PROP calls for a "full African instructor and management staff in place" by the end of FY 1976 (three years after project life was first to have ended). Subsequently, the contract was extended to the close of Calendar 1976. This evaluation was timed to enable us to confer with Aero-Ford personnel before their departure.

The Center's African staff is essentially in place:

- o The four management slots -- Director; of the Administrative, Educational, Logistics, and Accounting Departments -- are filled by Togolese.
- o Ten of the 11 instructors -- eight Togolese and two Nigeriens -- are present and actively teaching. Negotiations are under way with a civil servant in Benin to teach the Soils Laboratory Technicians course.

- o The support staff is in place. It includes a Nigerien Chief Mechanic, a Togolese Supply Officer, plus other Togolese.

(See Figure 2, Section 4-B(1), for CERFER's Organization Chart.)

CERFER's African staff consists of contract employees and persons on loan from Togo's PWD. Numerous sources agree that the preponderance of Togolese on the staff is a function of proximity, Togolese pride in the "home institution", cost-of-living and related problems faced by non-Togolese, and unwillingness/inability of the other Entente states to part even temporarily with their scarce reservoir of qualified PWD personnel. The Center appears to have little difficulty recruiting Togolese staff.

We found that qualified observers in the main expect Africanization to work, although there is more concern over the ability of management to carry on effectively than the instructional or support staff. It is almost universally agreed that the focal point of weakness resides in the person of CERFER's Director General, a gentle "leader". The Director General reportedly was hand-picked for the position by the President of Togo; he comes from Togo's PWD.

Some voice serious doubt over the success of Africanization, tying their fears to the rapid recent pace at which it has taken place. The comments come from some members of the Council of Administration and French observers. A Council member's lack of confidence in the ability of the African staff to carry on at this point without expert technical aid results from what he calls the chronic instability of CERFER -- it has suffered too many changes of direction and expatriate advisors. Fréjacques, in his 1976 report to the Council of the Entente notes that, after the U.S. administration and technical advisors depart, the Director will need "elements to furnish equivalent skills", and that foreign aid cannot yet be entirely replaced.

A FAC representative, stating that CERFER has been too spoiled with foreign aid to navigate suddenly by itself, notes that continuing technical assistance is required unless there is a change in Center management. He implies that, out of concern, FAC will continue to support the Center by providing student scholarships and a limited number of instructors.

CERFER's African administrative and instructional staffs express few doubts about their ability to continue without expatriates.

Their concerns center about future changes in the make of equipment with which they have to teach; their feeling that instruction from "expatriate experts" is generally better received than the same teaching from Africans; and the danger that instructors may favor compatriot students.

Our analysis of the Center, its staff, and recent history leads us to the conclusion that Africanization of the institution has not led and will not lead to insurmountable difficulties. Africanization has been working during the past year and should continue to work. Aero-Ford's remaining personnel (they are scheduled to depart at the end of November 1976) and AID's former long-time Project Director express confidence in the ability of CERFER to function effectively as an all-African institution.*

Supplementary assistance and advice, or direct strengthening of CERFER can be provided in at least four ways, including:

- (1) AID's Aid Affairs Officer at Lomé, when requested by CERFER to provide occasional short-term visits of financial, budgetary and/or administrative counsel and advice, should pass along the requests to REDSO for help on a "when available" basis.
- (2) Foreign advisors: Fréjacques recommends that, to maintain courses at their present level, a minimum of two foreign mechanics advisors and one foreign road specialist will be needed. (The three FAC advisors currently at the Center cover these areas. The courses for which they advise include: Equipment Operators' Crew Chief; Diesel Injection/Hydraulics; Electricity; and Road Section Chief. Their contracts continue into 1977.) A consultant to FAC calls for the presence of advisors for the Accountant, the Supply Officer, and for the Educational Director. We do not believe these latter positions require full-time advisors.
- (3) Direct-Hire of Foreign Consultants: PWDs of the Entente and other African states generally have foreign technical advisors. Those which do not receive the aid from foreign donors hire the technical firms directly. If CERFER's Council of Administration is sufficiently concerned about the effects of

* The Aero-Ford Educational Director was formerly in charge of the Africanization program through which the missionary schools of the White Fathers in east Africa were transferred to local direction.

of Africanization now, it should seek additional financial support from the Entente Fund, or from a special assessment on the member states, or use the foreign advisors to the PWDs.

- (4) Provide More and Better PWD Personnel: There is a reservoir of potential administrative, instructional and support talent in the PWDs of member states which has not yet been put at CERFER's disposal. The countries themselves should expend more energetic efforts to furnish some of their better people, to provide the Center with a solid, experienced staff.

* * * * *

A final word on the methodology by which Aero-Ford reports having achieved Africanization; the technique may have validity for similar transfers of responsibilities in other regional situations.

Aero-Ford's Director of Education states that training for transition began with a series of in-service programs in September 1974: seminars were held on teaching techniques, techniques of adult education, and visual aids. These were found useful in filling gaps in what the Africans had already learned. Intensive practical training of the African was then instituted by the instructor he was to replace. It was found that, in general, the Africans had good theoretical bases, but lacked practical experience. Through 1975, the Africans and foreigners were called "co-instructors".

As of 1 January 1976, the Africans became the instructors and the expatriates the advisors. African instructors have run the entire last training cycle. The Aero-Ford Educational Director reports that the expatriates have been surprised at how well the Africans have done.

To help ensure that Aero-Ford would not depart before an adequate African instructional staff could be assembled, CERFER's Director and its Educational Director made a recruiting visit to other Entente states which, for the first time, came forth with candidates. As the Director of Education succinctly put it: "Nothing was really done until the red warning light of imminent AID-pullout went on".

Figure 2, "Organization of CERFER", shows by Entente country the positions formerly held by expatriate counterparts which are now held by Africans. See 4-B(1).

4-B(6). Physical Facilities

CERFER is a complete training Center with more than adequate physical facilities. Most of its buildings were constructed between 1964 and 1970. They are well maintained. The student dormitory is still being equipped and has been in partial use since January 1976. The school has a library and books are catalogued.

4-B(7). Equipment

The history of equipment procurement, shipment, maintenance and replacement by CERFER holds lessons for future, similar AID projects.

Having to cope with old, not-typical-for-Africa equipment for which spares were often unavailable has caused undue downtime of CERFER's equipment, leaving machinery unusable for instruction over long periods of time. It has unduly occupied management and contract-team time which would have been better employed for refinement of instruction techniques and systems of operation.

X (The AID requirement (Reg No.1) that U.S. equipment be purchased has rendered CERFER training less effective than if some French and other European equipment had been allowed. This is true despite the availability of some U.S. equipment in Europe, where it is made under license agreements, since CERFER trains primarily for the country PWDs. The more its equipment duplicates that of the PWDs, the more effective CERFER's training becomes and the more easily it can be transferred to others.

The use of Aero-Ford to centralize the purchase of equipment and spare parts from many suppliers appears to have speeded the arrival of CERFER equipment by many months.

The procurement and use of Section 608 surplus property equipment has yielded varying results. During the earliest years of the project, when budgets were restricted, any available equipment was used for instructional and operational purposes. When cut-away instructional equipment became available about 1966 and 1967, the outdated 608 equipment became useful only for operational purposes. The availability at CERFER of unsuitable equipment resulted in excessive repairs, and in an increase of downtime of the equipment

because of local unavailability of spare parts. Eventually more of the 608 items became unusable than operational, and cannibalization became prevalent.

Relations between the Center and AID became strained by failure to procure spare parts and a feeling that the U.S. had dumped unwanted and unusable equipment on an unsuspecting CERFER. The better part of two years appears to have been wasted in repairing the 608 equipment. The experience, however, had one salutary effect on CERFER. It provided the incentive for the institution to devise more quickly a standard system of preventive maintenance and statistical control of downtime than might otherwise have taken place.

In early 1977, CERFER will receive a basic "package" of Caterpillar trucks, dozers, graders and loaders; Mack trucks; and an Ingersoll Rand compacter (all valued at \$500,000), plus \$100,000 in spare parts, from final AID grant funds. These are similar to equipment in the PWDs and will form the core of future instruction. They will be depreciated over a 5-year to 8-year period, to assure replacement as required. As AID assistance terminates, most of CERFER's equipment problems appear solved.

Procurement and shipping of U.S. equipment and materials also have caused problems over the past seven years. CERFER cites at least three orders for spare parts procured through AID/W which failed to arrive within two years.

CERFER will continue to depend on local distributors. It rationalizes that distributor ability to stock spare parts and the costs of direct procurement outweigh disadvantages. Because of the small size of CERFER's annual purchases, this approach has merit. In other situations, direct procurement might result in significant savings.

4-B(8) Evaluation of Actions Required Since 1975

No evaluation of the project has been undertaken since the authorization of the latest PROP on May 4, 1975. The last PAR is dated April 8, 1974.

Every important specific action proposed in the PAR and additional ones which formed the basis of the PROP have been taken. The more difficult actions were those required of CERFER:

1. Africanization of CERFER staff: virtually complete, as noted earlier.
2. Effective operational and budgetary controls: virtually complete financial, management and administrative systems have been developed and are in operation.
3. Installation of equipment utilization and preventive maintenance systems: systems have been developed, procedures are definitive and in written form, and personnel employ the systems. No data are yet available on reduction of downtime.
4. Repair and sale of unusable equipment: the major unusable pieces of equipment procured under Section 608 have been repaired and sold. A few large units remain; they have since been declared surplus and are to be sold. When the 1977 shipment of new equipment arrives, virtually all of CERFER's equipment on hand will be operational and similar to that used by Entente-country PWDs.
5. Evaluate the mobile unit concept: the mobile unit program was abandoned as counterproductive. It had raised questions of unequal benefit among participating states; was relatively expensive; caused excessive wear on equipment being transported long distances; and -- most important -- was inconsistent with instructional objectives of the Center.
6. Revise courses to provide more practical and less theoretical instruction: courses have been revised to stress practical work experience, but some Entente state PWDs still complain of too much emphasis on theory.
7. Improve coordination mechanisms with donors: no systematic mechanism to accomplish this is in operation. With the termination of AID project assistance, only FAC, FED and the member states remain. The latter are represented in the Entente Fund and the Council of Administration. No requirements are normally imposed by the remaining donors as prerequisites to assistance.
8. Secure prompt payment of contributions by the Entente states and of accounts receivable -- the Council of Administration has the means to follow up on member contributions, none of which are in arrears.

Analysis and evaluation of the effectiveness, efficiency and self-sufficiency (viability) of CERFER as of mid-November 1976 follows below, under "Purpose".

4-C. Purpose: Instruction Capability (Page 2 of the Logframe)

4-C(1) Effectiveness

The raison d'etre of the AID project being evaluated is to provide CERFER with the long-term capability of preparing well-qualified graduates, primarily for the PWDs of the Entente states, in the fields of repair and maintenance of heavy duty equipment and engines, and -- until recently -- the operation of road maintenance equipment.

Through the first session of 1976, CERFER graduates were divided as follows (%-to-total students shown in parentheses)*:

| | | | |
|------------------|-------------|------------------|------------|
| From Togo | 425 (31.6%) | From Niger | 115 (8.5%) |
| From Benin | 230 (17.1%) | From Ivory Coast | 60 (4.5%) |
| From Upper Volta | 124 (9.2%) | | |

Source: CERFER

CERFER at all levels of authority does not expect to become an institution of wider scope. Nor does the Council of Administration encourage such a change. Earlier in the report, we note that, at project end, no attempt is made to build a capability that would enable CERFER to provide referral services, to develop and transfer new technology or techniques, or to represent its client countries actively outside the region.

The Center does not play a formal coordinating role among the Entente states; such coordination takes place outside of CERFER through a joint public works committee or among representatives of individual governments.

Training institutions may opt to include greater service functions and develop and transfer technology by including the following among their objectives:

1. Train trainers (multiplier effect);
2. Develop training aids for PWDs;
3. Maintain contact with other road maintenance equipment centers;
4. Provide repair, maintenance and/or road building services consistent with uninterrupted instruction;
5. Develop standards or norms for client countries in pertinent areas, including equipment, systems control and accountability, purchasing, warehousing, and maintenance.

There is a feeling among CERFER staff that the skills taught at the Center will communicate themselves to the PWDs by osmosis, after graduates return to their jobs.

No evaluation has been made concerning the relative expertise of CERFER graduates compared to locally trained workers; the attitudes of supervisors toward returnees; or the possible conflict between CERFER-acquired learning (and CERFER equipment) and those of the Entente-country PWDs. This should be done.

Short seminars for supervisors and higher functionaries of the PWDs would pave the way for increased use of the new techniques that the graduates bring back on their return.

4-C(2) Efficiency

CERFER, like most regional institutions, depends heavily on member countries and outside sources for revenue. Developing nations are seldom able to provide unlimited support or pay relatively high tuition and living costs for their students who attend foreign training institutions such as CERFER. Indeed, strict cost-control and moderate charges-per-student will be required if CERFER is to attract the number of non-Entente students needed to ensure viability.

CERFER also can help minimize operating costs by using its instructional equipment to the fullest. This demands constant maintenance and adequate stocking of parts, so that rapid repairs can be effected, and downtime reduced to acceptable levels. Fortunately, these requirements are also a basis for effective instruction.

Constant and rapid turnover of administrative, teaching and support staffs disrupts efficient operation, often involves added costs, and could result in lost CERFER income because of course-cancellation or equipment breakdown.

How does the cost of instruction at CERFER compare with costs in other institutions? No easy comparison exists because practically no data exist on the cost-per-student-month for similar centers. From 1970 through 1976, the average cost-per-student-month -- using operational costs only -- was \$383 (see Table 7, next page). The average is raised significantly by the high cost-per-student-month of 1974 and 1975, when CERFER abandoned the "cycle" form of

instruction, and adopted the uniform entry date -- temporarily but seriously impeding the flow of students to the Center. If the costs for those years (\$570 and \$566, respectively) are eliminated, the average cost for the remaining five years is slightly more than \$300 per student-month.

The foregoing figures do not take into account costs CERFER did not bear -- including depreciation of equipment, cost of advisors and other overhead items such as dormitory construction, not included in the Center's operational budget. Moreover, cost-per-student-month varies considerably, depending on the size of student enrollment. Many overhead costs remain constant irrespective of the number of students.

Looking to the future, CERFER estimates total operating and depreciation costs from 1977 through 1981 at \$4,100,000. Assuming 152 students per 11-month academic year, the cost comes to \$5,450 per student-year, or about \$500 per student-month.* Depending on a shortfall in number of students below that level of capacity,** cost per student-month rise more or less sharply.

Table 7. AVERAGE OPERATING COST PER STUDENT MONTH AT CERFER, 1970 - 1976

| <u>Year</u> | <u>Operating Expenses</u> | <u>No. of Graduates</u> | <u>Student Months</u> | <u>Avg. Cost per Student-Month</u> |
|--------------------|---------------------------|-------------------------|-----------------------|------------------------------------|
| 1970 | \$209,797 | 149 | 748 | \$279 |
| 1971 | 302,788 | 155 | 1,035 | 294 |
| 1972 | 289,062 | 156 | 1,155 | 250 |
| 1973 | 331,331 | 171 | 960 | 345 |
| 1974 | 262,752 | 47 | 461 | 570 |
| 1975 | 380,093 | 115 | 671 | 566 |
| 1976 ^{1/} | 402,095 | 126 | 1,069 | 376 |
| 1970-76 | <u>\$2,175,954</u> | <u>919</u> | <u>6,099</u> | <u>\$383</u> |

^{1/} Estimate

Source: Aero-Ford

* Compare this figure with AID's standard cost of \$800 for cost-per-student-month for full academic courses. See Sperling, Evaluation of Development Associates, Inc., Pg. 5, for other norms.

** The 152-level is a function of the capacity of the new CERFER dormitory. However, because students who reside in Lome can live home and members of the Togolese armed forces who attend CERFER could reside in a Lomé military camp or barracks, the potential capacity of the Center is appreciably higher.

Although the figure has little meaning by itself, some interest has been shown in the estimated 1970-1976 cost to AID per student and per student-month. Nine hundred and nineteen students were graduated from CERFER during the seven years -- a period during which AID invested \$4,532,000 in the Center and 6,099 student-months of instruction were provided. Based on these figures the average cost to AID per student comes to \$4,930, and the cost per student-month is \$740.

* * * * *

The evaluation team had no guide by which to measure acceptable downtime levels at CERFER. Such data will become available before the end of 1976 in the Aero-Ford draft final report.

4-C(3) Viability

A changing Congressional mandate, which is not concerned with maintenance of heavy equipment and which only indirectly touches on secondary roads as they relate to farm-to-market and access roads, has placed pressure on AID to speed CERFER's self-sufficiency. AID attempted without success to disengage itself in 1973 and again in 1975. Neither the Entente Fund nor CERFER appears to have taken AID disengagement seriously, having become accustomed to receiving such grant assistance from the beginning without specific performance requirements. In part this reaction may stem from the experience which African institutions, including CERFER, have had with French and other European donors, who do not place conditions on their aid.

The principles of self-help and gradually increasing burden-sharing came late in the project, and were forced on both CERFER and Aero-Ford by AID's decision to phase out in 1976. Thus, while CERFER has been a regional center for the Entente states since 1970, it started to institutionalize in earnest only in 1975. — See AF 24

Financially (see Section 4-A(2)), CERFER is viable for at least the next several years, even without external assistance. Its prospects for covering total expenses are unusually bright. Barring unforeseen major catastrophies (such as a breakup of the Entente), we expect CERFER to be able to set aside reserves over and above its expenses during the next five years. Another potential threat to CERFER viability would be a breakdown in the ability of present top management to maintain the Center's recently

installed planning and operating systems. This likelihood is not great. Indeed, with CERFER realizing that it is now "on its own", it is not beyond the realm of possibility that the institution's management and Council of Administration may eventually extend the scope of the Center's services and take initiatives to ensure needed revenues. It may ultimately become a full-service road equipment maintenance training center.

4-D. Goal and Impact (Page 1 of Logframe)

If the sole purpose of CERFER through 1976 is to train graduates to function more effectively, what has been their impact on return? Our survey of four of the five Entente countries reveals varying effects.

The Center's impact on the Ivory Coast has admittedly been small. Sixty Ivorian graduates are few compared to the country's needs and its ability to train locally* the workmen and foremen it requires. It finds CERFER useful primarily in a few specialized areas, and for political reasons.

However, in terms of the proportion of pertinent PWD personnel who have been exposed to the school's instruction, CERFER has impacted positively with varying degrees of significance in Togo, Benin and Niger.

Certainly Togo, with 44.5% of total Entente graduates and the smallest secondary road system by far among the Entente states (See Table 1), has benefited greatly.

So has Benin. That country's assistant Director of PWD repair and maintenance service: (and an Administrator of CERFER) estimates that 45% of Benin's pertinent PWD workforce of 200 has graduated from the Center. Our research reveals that Benin's PWD has had 119 CERFER graduates through the first session of 1976, including students who have returned for more specialized courses -- a total that tallies with the estimate.

* One of the Ivory Coast members of the Council of Administration, M. Remy Adch, is Professional Training Director for the PWD. His school has a current enrollment of 147, most in courses that parallel CERFER's.

Seventy of the 116 Nigerien graduates of CERFER during the past 12 years -- some 60% of the total -- have come from that country's PWD. This may be 15% to 20% of pertinent PWD workforce. The Ministry of the Plan's Training Division selects the applicants, unlike the practice in Benin, Ivory Coast and Togo, where recruitment is PWD-directed. In 1975 and 1976, only six of Niger's 38 graduates were of PWD origin, while 21 came from the armed forces.

Lack of available statistics prevented us from isolating the impact of CERFER on the Entente states in terms of directly attributable increases in mileage of secondary roads; decreases in equipment downtime; and effectiveness of spare parts management. (It appears, moreover, that most of the expected benefits from increased expertise, which could have resulted in decreased downtime, are lost because of unavailability in the field of spare parts, lubricants and other components needed to apply this expertise).

Even under the best conditions, these indicators are dependent for meaning on highly volatile assumptions (see page 1 of the Logframe). In addition, the increasing use of secondary roads by heavier vehicles and equipment tends to increase wear and tear, sometimes within a short period; and the lack of homogeneity among the countries road systems make measurement difficult, if not impossible.

Once evaluation of returned graduates has been completed, CERFER should have a better idea concerning client satisfaction with its graduates. Because of specific-to-country practices, the PWDs of the Entente states (except for the Ivory Coast) generally do not promote CERFER graduates. However, heads of PWD maintenance sections reflect widespread satisfaction with the Center's training of mechanics, suggesting the positive effects of its recent efforts to increase the practical content of courses.

CERFER has given little thought to its ultimate goal. Considering the Center's state of development, its lack of direct responsibility to the country PWDs, and the difficulties of measurement, it probably could not have been expected to do so.

At the AID project's end, the goal indicators of CERFER's efforts have little meaning.

5. AID/AERO-FORD RELATIONS

Slower growth than might have been expected in Africanization and viability is implied from the achievement of the past two years, when virtually all of the major institutional elements were developed. The lack of self-sufficiency also underlies the inability of AID to terminate the project in 1973 and again in 1975.

The roles of various concerned entities -- including the AID contractor -- are key to the slow institutionalization of the project:

1. We note in Section 4-B(1) that the Entente Fund, the signatory to AID General Agreements, serves as a mere conduit for AID assistance to CERFER. The Fund is not an organization with which a substantive discussion or negotiation concerning CERFER can be conducted, except perhaps on the level of assistance. This may be why these Agreements, until the last one, did not stipulate conditions tied to a time-frame for the Center's growth and institutionalization.

In effect, the Fund interposed a layer between AID and the action agencies (CERFER's management and its Council of Administration); the AID principle of seeking self-help and burden-sharing was lacking in the AID-Fund relationship.

2. Insufficient prior discussion appears to have taken place with either the Council of Administration or the Director of CERFER on the Center's objectives, performance and related timing. The PROP was an internal AID document that called upon CERFER to meet stated objectives. However, since CERFER had no official role in developing the PROP, the document does not meet the PROP's test of responding to a stated need and related interest in accomplishing objectives.
3. CERFER's limited institutional purpose and the dominant policy-making role of the Council of Administration makes meaningless the goal and ultimate impact features detailed in the PROP. It also helps explain why CERFER has given little attention to date to evaluation of graduates and standardization

of equipment in the PWDs of Entente-member states.

4. The evaluation team has been struck by the realization that many if not most members of the Council of Administration and CERFER's staff equate the contractor, Aero-Ford, with AID. In their eyes, Aero-Ford personifies the Agency and is part of it, rather than being a firm under contract for the specific project. This semantic nuance has led to continuing misapprehension and failure of expectations for the Africans and AID alike.
5. Aero-Ford had difficulty recruiting qualified personnel for assignment to CERFER. By 1971, it was a theoretical three man-years behind schedule. Individual advisors and the team as a whole had changing and drifting objectives for the first four years. AID's attempts to complete the project were inconsistent with much of its contractor's performance.

We believe that CERFER is viable and will continue to operate satisfactorily without AID assistance over the long-term. However, it would have been wiser to have lengthened the phase out of advisors, in order to leave one management/systems advisor through CY 1977 as a sounding board to CERFER's staff. (See Section 3-C for discussion of potential alternate means for assistance).

CERFER expects as many as 15 non-Entente Africans and 20 Sahel rural road project students annually during the next five years. Insofar as a need exists in Francophone African states for road equipment maintenance training, CERFER should be considered. AID might include a clause in loan agreements to that effect where (a) secondary roads are specified, (b) work is to be accomplished by PWDs, not private contractors, and (c) other schools do not meet needs better.

Figure 3.

| NARRATIVE SUMMARY | | OBJECTIVELY VERIFIABLE REGION/COUNTRY INDICATORS | | TARGET YEARS | | | | | IMPORTANT ASSUMPTIONS |
|---|--|--|--|--------------|------|------|------|------|---|
| | | | | 1976 | 1977 | 1978 | 1979 | 1980 | |
| <p>Program or Sector Goal: The local objective to which this project contributes:</p> <p>G/H/I. Entente countries maintain secondary roads more economically and to higher standard</p> | | <p>Measures of Goal Achievement</p> <p>I. Savings from maintained roads (¢/km)</p> <p>H. Kilometers of secondary rds built/improved (% of Total)</p> <p>G. Kms of secondary rds maintained (% of Total)</p> | | ¢/km | ¢/km | ¢/km | ¢/km | ¢/km | <p>Assumptions for achieving goal targets:</p> <p>G/H. Climatic conditions do not vary significantly</p> <p>F/G/H. No undue political or budgetary changes affect PwD capacity or operations</p> <p>Spares, lubricants and equipment are available in field</p> |
| <p>F. Savings in operations in five countries</p> | | <p>F. Avz opng cost of eqt decreased (% downtime of eqt reduced)</p> | | % | % | % | % | % | |
| <p>E. CERFER initiatives bring about transfer of technology and incr standardization</p> | | <p>E. Standardization of PwD operations:</p> <p>1) Central whang of common spares (# countries)</p> <p>2) Coordinated purchasing implemented (# countries)</p> <p>3) Elec systs std (#)</p> <p>4) Eqt standardized (#)</p> | | # | # | # | # | # | <p>E. The five countries agree to participate</p> <p>Govts implement according to std</p> <p>Country planning and purchasing are coordinated</p> <p>Resources are equally available to the five countries</p> |
| <p>D. Graduates better qualified & benefit from training</p> | | <p>D. Graduates promoted (%/)</p> | | #/% | #/% | #/% | #/% | #/% | |
| <p>C. Graduates evaluated by PwDs on their return</p> | | <p>C. Supervisors satisfied or better (%)</p> | | % | % | % | % | % | <p>D. Incentive systems introduced</p> <p>C. Evaluation systems implemented</p> |
| | | <p>E. Grads are tng local counterparts at home (%/)</p> | | #/% | #/% | #/% | #/% | #/% | |
| <p>A. CERFER is recognized and utilized by the PwDs</p> | | <p>A. Grads employed at home</p> <p>1) Eqt mechanics (#/)</p> <p>2) Mech specialists(#/)</p> <p>3) Rd specialists (#/)</p> | | #/ | #/ | #/ | #/ | #/ | <p>A. CERFER graduates comprive 20% or more in the specialties</p> |
| | | | | #/ | #/ | #/ | #/ | #/ | |

Life of Project: _____
 From FY _____ to FY _____
 Total U.S. Funding _____
 Date Prepared: _____

Figure 3. (continued)

Regional Road Maintenance Training Center, Proj. No. 698-11-999-135

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: _____
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: _____

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE CENTER INDICATORS | TARGET YEARS | | | | | IMPORTANT ASSUMPTIONS |
|---|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---|
| | | 1976 | 1977 | 1978 | 1979 | 1980 | |
| Project Purpose: Establishment of an effective, efficient and self-sufficient (non-AID supported) Entente Country Heavy Road Equipment Maintenance Training Center | Conditions of I will indicate purpose has been achieved. End of Project status. | | | | | | |
| | EFFECTIVENESS | | | | | | |
| | A. Qualified graduates: 1) Entente countries (#) 2) Non-Entente Africans (#) | # # | # # | # # | # # | # # | A. Examinations comparable to working conditions |
| | B. Countries requesting slots 1) Entente countries (#) 2) Non-Entente African (#) | # # | # # | # # | # # | # # | |
| | C. Short-term seminars: 1) Supervisors (sp/yr) 2) Supervisors of roads (sp/yr) 3) Administrators (sp/yr) 4) Other (sp/yr) | sp/yr sp/yr sp/yr sp/yr | sp/yr sp/yr sp/yr sp/yr | sp/yr sp/yr sp/yr sp/yr | sp/yr sp/yr sp/yr sp/yr | sp/yr sp/yr sp/yr sp/yr | C. Supervisors will be sent by their governments Administrators sent by their govts |
| | D. Referral & representation 1) On-job-tng aids developed for IADs (#) 2) Agencies requesting advice In : Training (#) System (#) Other (#) 3) Ad eqt centers contacted (#) 4) Outside couns participn (#) | # # # # # # | # # # # # # | # # # # # # | # # # # # # | # # # # # # | D-1) Tng aids requested by the IADs 2) Specialized expertise is not available to the IADs 3) Other ctrs willing to trade technology 4) C of A encourages local participation |
| | EFFICIENCY (%) | | | | | | |
| | A. Cost per student/month reduced | % | % | % | % | % | A. Inflation rate will not exceed econ. |
| | B. Downtime reduced 20%/yr (%) | % | % | % | % | % | CEAFET has capacity % of students. B. No undue accidents to equipment. Spare avail as needed (mfg & shipping) |
| | C. Emplmnt duration of permanent staff (1/2 avg months) | % | % | % | % | % | C. Staff not recalled by governments. |
| | VIABILITY | | | | | | |
| | A. Non-AID sources provide budget | % | % | % | % | % | A-1) Entente countries provide operational budget |
| | 1) Entente (%) | % | % | % | % | % | 2) Non-Entente studs available & pd for |
| | 2) Non-Entente Govts students (%) | % | % | % | % | % | 3) FAC, FED, etc., continue to support Ctr |
| | 3) Non-student donors (%) | % | % | % | % | % | 4) Opports to use outside work for instrn |
| | 4) Fees for rds/repairs (CFAs) | CFAs | CFAs | CFAs | CFAs | CFAs | 5) Pvt rd eqt firms (CFAs) |
| | 5) Pvt rd eqt firms (CFAs) | CFAs | CFAs | CFAs | CFAs | CFAs | 6) No equipment less before planned time period |
| | 6) Depreciation reserve adequat. to cover eqt replacement (CFAs) | CFAs | CFAs | CFAs | CFAs | CFAs | |

AIJ 102228 (12-71)
SUPPLEMENT 1

Figure 3 (concluded)

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Regional Road maintenance training Center

Project Title & Number: Project No. 098-11-999-135

Life of Project: _____
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

PAGE 4

| NARRATIVE SUMMARY | | | | OBJECTIVELY VERIFIABLE INDICATORS | | | | | | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|-------------------|---------------|-------------------|--------------|---|------|--------------------|------|------|------|-----------------------|-----------------------|
| Inputs: | | | | Implementation Target (Type and Quantity) | | | | | | | |
| | 1964- 1969 | 1970- 1976 | 1964 1976 | 1976 | 1977 | 1978 ^{1/} | 1979 | 1980 | 1981 | | |
| | (in 000,000) | | | (in 000) | | | | | | | |
| AID | 2.0 | 4.5 ^{1/} | 6.5 | 175 | 50 | -- | -- | -- | -- | | |
| FAC ^{2/} | -- | .7 | .7 | 45 | 45 | 45 | 45 | 45 | 45 | | |
| FED ^{3/} | -- | .8 | .8 | 40 | 40 | 40 | 40 | 40 | 40 | | |
| Other | -- | -- | -- | 175 | 175 | 225 | 275 | 350 | 425 | | |
| Entente Fund | --- | 1.0 | 1.0 | 400 | 450 | 450 | 450 | 450 | 450 | | |
| TOTAL | 2.0 | 7.0 | 9.0 | 1,475 | 760 | 760 | 810 | 885 | 960 | | |

Assumptions for providing inputs:

* For 1977: AID supplies one 1100 advisor for part of yr; or short-term advisory services as required.

Sahel and AID Missions use CERF in non-Entente African states send students to CERF & pay for their

Council of the Entente continues to function.

1/ See Table 4 for details.
2/ Considered likely for 1978-81 if other sources fail.
3/ Assumes that FED makes available remainder of \$1,000,000 in FED/Entente grant agreement.

Figure 3. (continued)
 Regional Road Maintenance
 Training Center
 Project No. 698-11-999-135

PROJECT DESIGN SUMMARY.
 LOGICAL FRAMEWORK

Life of Project:
 From FY _____ to FY _____
 Total U.S. Funding _____
 Date Prepared: _____

NO. 100-10-1000
 SUPPLEMENT

Project Title & No.:

P-663

| NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | TARGET YEARS | | | | | IMPORTANT ASSUMPTIONS |
|---|-----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| | | 1976 | 1977 | 1978 | 1979 | 1980 | |
| I. Policy direction by C of A: 1) Meetings held per year (#) 2) Contacts by Managing Comm (#) 3) Annual charter review (yes/n) | Regional # Outputs | # # y/n | # # y/n | # # y/n | # # y/n | # # y/n | I. Entente Fund sponsors and supports CERFER financially. Member countries continue cooperation. |
| ii. Director executes & administers: 1) Rpt to C of A on progress (0-100%) 2) Proposals re improvement & v/b (#) | | 0%-100% # | 0%-100% # | 0%-100% # | 0%-100% # | 0%-100% # | |
| G. Systems revised annually | | | | | | | G. Mng Comm ensures objective review |
| F. Systems/standards devpd/used: 1) Management/administration (X) 2) Financial (X) 3) Accounting (X) 4) Maintenance of equipment (X) 5) Evaluation (X) | | % % % % % | % % % % % | % % % % % | % % % % % | % % % % % | |
| H. Student recruitment standardized/systematized: 1) Brochure (yes/no) 2) Catalog (annual) | | y/n Ann | y/n Ann | y/n Ann | y/n Ann | y/n Ann | |
| D. Training program reviewed (yes/no) | | y/n | y/n | y/n | y/n | y/n | D. Mng Comm ensures objective review |
| C. Practical training established: 1) List of courses (yes/no) 2) Survey of needs (ann--7 countries) 3) On-the-job training of staff | | y/n # | y/n # | y/n # | y/n # | y/n # | C-1) Needed equipment is available 2) C of A makes request and funds |
| E. Qualified African staff on board and operational: 1) Permanent support staff (#) 2) Contract instructors (#) | | # # | # # | # # | # # | # # | B-2) PWDs supply instructors as promised |
| A. Physical plant completed and maintained 1) Raw basic opt for construction | | | | | | | A-1) Equipmt delivered in early 1977 |

| NARRATIVE SUMMARY | | | | OBJECTIVELY VERIFIABLE INDICATORS | | | | | | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS | |
|-------------------|----------------|-------------------|--------------|---|------|------|------|------|------|-----------------------|---|--|
| Inputs: | | | | Implementation Target (Type and Quantity) | | | | | | | Assumptions for providing inputs: | |
| | 1964- 1969 | 1970- 1976 | 1964 1976 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | | | |
| | (in \$000,000) | | | (in \$000) | | | | | | | | |
| AID | 2.0 | 4.5 ^{1/} | 6.5 | 815 | 50 | -- | -- | -- | -- | | * For 1977: AID supplies one financial advisor for part of yr; or short-term advisory services as required. Sahel and AID Missions use CERFEM non-Entente African states send students to CERFEM & pay for their. Council of the Entente continues to function. | |
| FED ^{2/} | -- | .7 | .7 | 45 | 45 | 45 | 45 | 45 | 45 | | | |
| FED ^{3/} | -- | .8 | .8 | 40 | 40 | 40 | 40 | 40 | 40 | | | |
| Other | -- | -- | -- | 175 | 175 | 225 | 275 | 350 | 425 | | | |
| Entente Fund | -- | 1.0 | 1.0 | 400 | 450 | 450 | 450 | 450 | 450 | | | |
| TOTAL | 2.0 | 7.0 | 9.0 | 1475 | 760 | 760 | 810 | 885 | 960 | | | |

1/ See Table 4 for details.

2/ Considered likely for 1978-81 if other sources fail.

3/ Assumes that FED makes available remainder of \$1,000,000 in FED/Entente grant agreement.