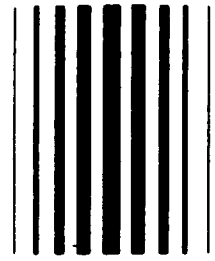
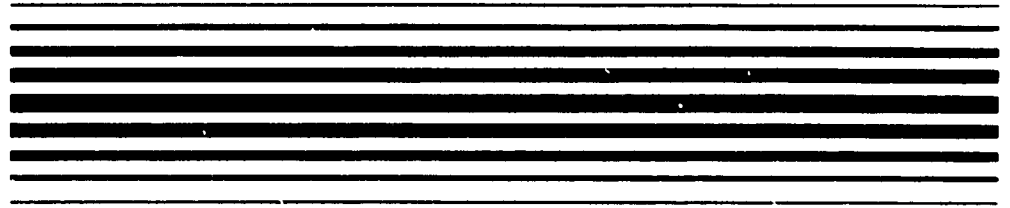


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**EVALUATION OF THE TUNISIA
TECHNOLOGY TRANSFER PROJECT**

for
USAID/Tunisia
July, 1991

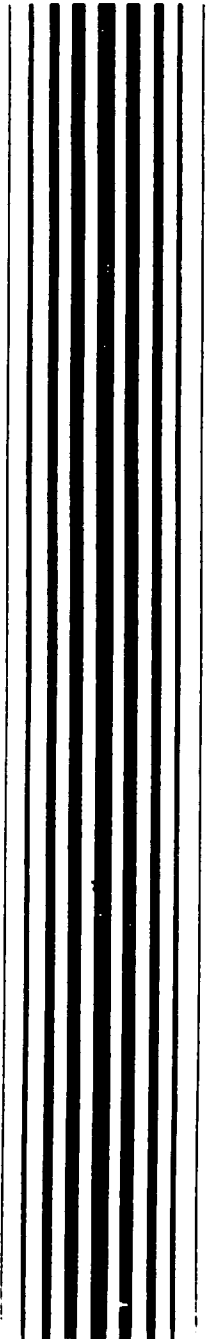
by

**John Overton, Team Leader
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Patricia Prunier**

with extensive revisions by
Gary L. Theisen
Academy for Educational Development

**A contract between the U.S. Agency for International Development and the
Academy for Educational Development, Contract No. PDC-0085-I-00-9061-00.**

AED



**EVALUATION OF THE TUNISIA TECHNOLOGY TRANSFER PROJECT
(664-0315)**

**for
USAID/Tunisia
July, 1991**

by

**John Overton, team leader
Cyril Mongelard
Patricia Prunier**

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Gary L. Theisen
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An unfortunate set of circumstances resulted in a delay of nearly a year between the conduct of field work for this evaluation and its completion. During that time uncertainties concerning the last year of the Technology Transfer Project and the future direction of PROS have been clarified. In most instances comments have been adjusted to reflect these changes. In other instances, observations have been left since it is felt they will provide useful guidance to the GOT independent of program support from USAID.

EXECUTIVE SUMMARY

TECHNOLOGY TRANSFER PROJECT EVALUATION Project Number 664-0315

A. Background.

This evaluation of the Technology Transfer Project covers only the period 1986 - 1990 as per the instructions in the team's scope of work. The Project began in 1981 with an original obligation of \$1.45 million. As of June 1991 the total resources obligated to the Project are approximately \$45 million. The Project completion date is September, 1992.

The goal of the Technology Transfer Project is to increase Tunisia's long-term capacity to apply new technology in support of the development of a market economy. The purpose of the Project is to develop a substantial cadre of individuals with the skills and attitudes needed to develop and sustain a competitive, open market system.

B. Primary Finding.

The Technology Transfer Project's primary goal of providing sufficient numbers and levels of trained personnel to meet Tunisia's technology development needs on a long-term basis has been partially accomplished. The initially projected number of 1,000 students to obtain advanced degrees will more likely approximate 700, of which an estimated 400-450 (60-70%) will return to assume jobs in Tunisia. Areas of technical specialization have been chosen primarily on non-empirical, public sector (university) estimates of what technical skills are needed in the private sector. A number of graduates have found that their training does not mesh well with private sector skill needs; other returnees have found it difficult to work their way into the job market because of unfamiliarity with the system and weak interpersonal networks resulting from long periods of study abroad. Management and practical problem-solving skills are in especially short supply.

C. Accomplishments.

USAID/Tunis to date has obligated \$45 million under the Project, has dispersed all but about \$3 million of that total. A total of 345 students have been supported and graduated with B.S., M.S., and Ph.D. degrees in close to 100 U.S. institutions of higher education. At present USAID is sponsoring 230 students in some 65 U.S. universities.

Approximately \$1 million of Project funds have been earmarked for short-term training. At the time of the evaluation,

approximately one-half of those funds have been obligated with some 37 programs conducted to date serving a total of 62 trainees.

USAID funds have also been used to support the Tunisian government's training implementation unit in Washington, D.C., MUST. Funds have been provided for salaries of key MUST staff, computers for monitoring and managing participants, and resources have been made available for skill-training and upgrading for MUST staff. In addition, USAID has developed a cooperative agreement with AMIDEAST to provide re-entry training and counseling for Tunisian graduates.

A total of 61% of all Tunisian students trained in the U.S. have returned since completion of their degrees. The lowest rate of return has been for Ph.D. students (47%), and the highest rate for M.B.A. recipients (71%). It is likely that a number of the non-returnees will eventually return to Tunisia; a number of non-returnees are still studying in the United States. Approximately 25% of the total number of trainees have been female. Of all of the program returnees, 84% are currently employed in Tunisia. Of those 56% are working in the private sector, 32% in the public sector and 7% for parastatals.

D. Project Constraints and Recommendations.

Several primary themes need to be emphasized as the project enters its final year:

1. Attention needs to be focused on policies and strategies for increasing the number of graduates who return to Tunisia and for placing them in jobs that will draw fully upon their training and intellectual capabilities for the technological development of the country.
2. A thorough cost analysis of past, present, and future long-term training commitments is urgently needed. It is imperative that the GOT and USAID be fully apprised of the cost projections for the students still in the training pipeline under the TT project. This analysis needs to be conducted on a student-by-student, semester-by-semester basis within each fiscal year included in the pipeline expectations. The unit cost of training students on an annual or semester basis has not been calculated. Absence of these data make it difficult to plan accurately for long-term training. It is recommended that USAID encourage the GOT to conduct a week-long workshop for Tunisian University officials and select staff from the Ministries of Plan, Finance and Education to analyze the implications of high, per-student unit costs and to examine trade-offs between private and social rates of return to investments in higher education.

These findings have significant implications for USAID and GOT

pipeline obligations. They will also inform thinking about the cost-effectiveness and rate of return associated with the current GOT strategy of providing full-support to students who study abroad for their post-secondary education.

3. The priorities for training must be discussed and agreed upon by USAID and the GOT prior to the development of PROS and, if possible, before the end of this FY.

4. A suitable implementation and funding mechanism needs to be found quickly in order to meet the projected short-term training commitments made under TT. A cooperative agreement appears to be the most cost-effective way of contracting for requisite services.

5. MUST has been found lacking in both the quantity and quality of services performed. Improvements that have been repeatedly called for and not yet been made, should either take place immediately or else USAID and the GOT should identify a different implementation unit if similar services are to be provided under PROS.

6. Discussions with all of the staff related to the selection and placement of participant trainees reveal that the present selection process does not give enough consideration to characteristics such as financial need, personality characteristics and predisposition toward success and to returning to Tunisia. Although no new students will be funded by USAID under the TT project, it is recommended that the GOT reexamine its selection policy and procedures so that more broad-based criteria can be employed in the selection and funding of students to be trained overseas. The GOT might commission a technical paper or a workshop on these issues. Greater cost-benefit and equity must be derived from investments in foreign training.

7. Apparent inconsistencies in GOT accounting for the obligation of scholarship funds given to specific students need to be remedied. Records need to be maintained that will allow the GOT and project staff to monitor obligations to individual students. Steps must also be taken to eliminate the potential for double payments to students (once from USAID and once from sponsoring U.S. universities).

8. Great emphasis has been placed on engineering as a priority area of study. There is insufficient flexibility in selecting a course of study to allow students to receive training and experience in important cognate areas such as business, management, and planning. It is recommended that MUST staff become aware of the importance of "cross-training" through study tours and campus visits by utilizing resources that have been provided for this purpose by USAID. It is also recommended that

USAID take the lead in organizing and financially supporting workshops/training seminars on human resource developments in Tunisia. The goal of the workshop should be to generate an empirically-based study of human resource development priorities and then to link the findings of that study to the selection of students for overseas training.

9. The MUST office has granted numerous extensions to students requesting to stay in the U.S. Despite specific requirements requiring MUST to clear the extensions with USAID, approval has not been obtained. In order to force compliance USAID should reiterate established policies to the GOT and MUST, should explicitly state these in the student handbook, and should withhold future tranches of funding until full compliance is achieved.

10. Information supplied by MUST has been inadequate to calculate unit costs and to monitor student progress with consistency and accuracy. USAID should develop, perhaps with the assistance of a technical consultant, a specific list of data required for effective project monitoring. Regular communication needs to be established between USAID and the Director of Foreign Studies in the GOT. At a minimum, monthly phone calls and quarterly face-to-face meetings should be established. If MUST is to be maintained as the principal implementing agency with the GOT, then a computer specialist should be hired to supervise the creation of a student data base and the production of annual reports stemming from the information contained therein.

11. By the nature of GOT policy and USAID consent, students have the choice of remaining in the U.S. during the summer semester or returning to Tunisia for that period. This liberal and costly policy not only adds to the overall expense of the training program but also may indirectly contribute to the high rate of non-returnees. It is recommended that USAID require that students attend courses during the summer semester except under unusual circumstances, and that beyond a pre-determined period of time for study, the students will be required to use their own resources to complete their degree. The students should also be encouraged to participate in at least one practical workshop or training experience while in the U.S. AMIDEAST, the GOT and USAID should collectively try to identify the short-term training opportunities that could be used to supplement their longer term training experiences.

12. The process of identifying short-term training activities and then of securing the necessary approvals is very time-consuming and cumbersome. Unless an alternative strategy is found to enable more rapid placement of people in short-term training programs, funds obligated for this purpose will not be utilized by the project completion date. It is recommended that USAID consider awarding a cooperative agreement to a nonacademic

training/consulting institution for the purpose of custom designing short-term training activities that meet the priority needs of the Tunisian marketplace. It is further recommended that a Tunisian firm be involved in this process in order to increase the chance that the training activity will be sustainable beyond the life of the project.

D. SUMMARY.

Despite the fact that the Technology Transfer Project has been amended 12 times since 1981, it has undoubtedly contributed to the development of a highly skilled body of individuals capable of making contributions to the development of a more dynamic economy in Tunisia. The Project has been troubled by personnel problems in the GOT, rather weak performance by MUST in project monitoring, and by the failure on the part of USAID to establish constant, supportive communication with the GOT on policies and procedures for implementing the project. The greatest long-term significance is the need for USAID and the GOT to draw upon the experiences gained from this project in designing a better informed set of policies that will guide higher educational development. Non-empirical estimates of the social costs of overseas training would appear to be unacceptably high relative to the rather low social rate of return generated by these investments. USAID and the GOT would do well to synthesize the lessons that have been learned during the last 10 years of the TT Project and to use them as a basis for frank discussions in the form of working papers and seminars as they plan for the next stage of human resource development under the PROS Project.

1.0 INTRODUCTION

1.1 Purpose of the Evaluation

The purposes of this evaluation are: 1) to review implementation progress since the 1988 Audit of the Tunisia Technology Transfer Project (TT) was conducted; 2) to suggest actions which can be taken to meet any targets outlined in the Logframe which remain unmet; and 3) based on lessons learned from the Project, to provide suggestions for the development of the Project Implementation Design (PID) for the new Productive Skills Training Project (PROS), which is currently being created.

The recommendations concerning the development of the PROS center on two principal questions: a) how USAID-funded training can better fit into the changing human resource needs of the Tunisian private and public sectors as the GOT promotes private sector and export-oriented development; and 2) what recommendations or lessons learned from TT might enhance the effectiveness of the PROS project.

1.2 Project Background

The Technology Transfer Project was originally an indigenous effort designed by the Government of Tunisia (GOT). With a decline in the availability of hard currency, the GOT requested USAID assistance in securing commodities, technical assistance and support for long-term technical training. A principal objective was to reduce Tunisia's dependence on external institutions for technical training and to meet manpower needs by developing its own cadre of qualified academics and practitioners. Initiated in USAID/Tunis in 1981 with a Project Activity Completion Date (PACD) scheduled for 1992, the project has evolved over the years into a USAID-supported scholarship program for select Tunisian students. Significant changes in project design, project objectives and project management have occurred as a result of a variety of external political factors, USAID internal agency needs, audits and evaluations. The project is stronger and more focused as a result of these changes. However, a cutback in Agency funding and spiraling pipeline projections for the project have resulted in a substantial curtailment of activities by USAID. These reductions are a point of contention between the GOT and the mission. The success of the follow-on project, PROS, is dependent in part on how well the planned budget reductions are understood and accepted by the GOT.

Three distinct phases characterize the Technology Transfer Project. Under the initial TT design \$1.4 million was obligated. The objectives were to decrease Tunisia's dependence on overseas technical education through the provision of targeted technical assistance in support of the GOT's manpower planning efforts, and

to develop the national university system and support for the office of MUST, the Washington D.C. office responsible for administering the GOT-funded scholarship program in the United States. In the initial phase of the TT project, technical assistance in management information systems was provided to the GOT and MUST. Tentative linkages were also established between institutions in the Tunisian national university system and U.S. universities.

TT rapidly moved into a second phase by assuming substantial financial responsibility for the GOT-sponsored scholarship program. This change was initiated at the request of the GOT in a period when it was dealing with a worsening balance of payments situation. It is important to note that some of the early participants in the scholarship program received as many as 3 consecutive degrees due to the funding largess of the GOT. The expectation among many students who received sponsorship for their B.S. degree was that resources would also be made available to them for continuation to the M.S. level and, in some cases, through the Ph.D. degree. Thus, up to 10 years of scholarship and support were provided to some students, at a total cost approximating \$200,000 per student. The prospects of partially funding 500 students had profound pipeline implications for USAID.

Amendment No. 2 provided \$2 million to cover scholarship costs for the school year 1983/1984, and each subsequent year saw additional funds added to finance the GOT-sponsored scholarship program. In 1981 when the original technical assistance authorization of \$1.4 million was made, this component was limited in scope at the request of the GOT to the provision of direct assistance to the MUST office in Washington D.C.

The number of students enrolled grew from an initial 209 in 1981/1982, with costs that year assumed entirely by the GOT, to a peak enrollment of 515 in the 1986/1987 academic year, with USAID co-financing. The number of students in the pipeline in 1986/1987 became a matter of concern to USAID/Tunis in view of the long-range funding implications and the need to structure the program at a level which could be maintained by the GOT. This concern defined the characteristics of the third phase of TT.

PIL 18 dated October 9, 1987 specified that the GOT cover all TT scholarship expenses in excess of \$5 million in FY 1988. This PIL stipulated not only limits on the funding ceiling of the project but also resulted in changes in project structure:

- no more than 50 new students would be accepted for sponsorship for the 1987/1988 academic year;

- USAID support for Bachelor Degree students would be terminated except on an exception basis as determined by MUST;
- USAID scholarship funds could be used to cover tuition for summer academic studies;
- MUST agreed to submit timely and accurate reports to USAID to ensure the appropriate flow of disbursements, and identification and resolution of policy and implementation issues; these reporting responsibilities were precisely defined in the PIL.
- MUST agreed to add one additional Academic Advisor to their existing staff as of July 30, 1987, to be financed solely by GOT funds; and
- upon notification that this advisor had joined MUST, USAID agreed to provide funds for an additional, expatriate Academic Advisor and a Data/Information/Reports Manager.

In response to USAID's contributions, the Ministry and MUST promised to incorporate the recommendations of the Placement Services Needs report and the Labor Market Demand study planned for 1987. They also agreed to provide assistance, as feasible, to returned graduates in finding jobs. The Ministry and MUST were encouraged to use the findings of the Labor Market Study to place students in fields of study which reflected projected, skilled manpower requirements. Of special importance was the agreement that the Ministry and MUST establish contractual agreements with graduates financed by the project that required them to return to Tunisia for at least a two-year period following their graduation as required by the J-1 visa regulations.

Project Paper Amendment No. 8, dated Feb. 28, 1988 added a short term training component to enhance USAID flexibility in responding to Agency and GOT priorities. The Amendment places administration and management responsibility for short-term training under the auspices of the Ministry of Plan. The Project Paper also re-defined several other key operational principles of the project including:

- support for fields of study that would enhance structural adjustment;
- inclusion of affirmative action placement services for returned students; and

institution of a five year bonding contract for scholarship recipients beginning with the spring semester of 1987.

Project Paper Amendment No. 8 acknowledged the importance to the GOT of the Technology Transfer Project's quick disbursement capabilities in assisting GOT stabilization efforts amidst government structural adjustment reforms.

A Regional Inspector General (RIG) audit in 1988 followed the above amendment and, as a result, USAID/Tunis was asked to continue negotiating with the GOT to make the TT Project more responsive to USAID agency-wide policies and procedures, including Handbook 10. USAID was asked to continue re-design efforts incorporating lessons learned from participant training programs in Tunisia since 1957. The mission was also asked to build in more realistic assumptions regarding anticipated GOT resource contributions towards the creation of new university faculty positions for returned scholars and to develop pragmatic expectations regarding student motivation to return to Tunisia upon completion of study. The audit questioned whether long-term participant training was a cost effective method of manpower development in Tunisia given low levels of reentry following studies. The audit contended that the Mission had not maintained sufficient records on the project's design, accomplishments and implementation problems, especially from 1981 to 1984. In particular, the participant tracking system was deficient in documenting those who had exited or graduated from the program.

PIL 24 dated August 15, 1988 further clarified the intent of Project Agreement Amendment 8, and amplified information contained in PIL 7 dated December 26, 1984 and subsequent PILs, in particular PIL 18, dated October 9, 1987. PIL 24 established new parameters for the project with respect to size, scope, staffing and training orientation. It established the new Fixed Amount Reimbursement (FAR) for 1988/1989, clarified the process used for disbursement of funds, and earmarked project resources for specific activities reflecting RIG concerns with regard to record keeping and documentation. Among the important provisions were:

Ministry agreement to gradually reduce the size of the program and to set a target of approximately 430 project-financed students for the 1988/1989 school year by setting a limit of 60 new M.S. and 20 new Ph.D. degrees total, including second degrees;

Ministry recognition that USAID has taken an exception to normal agency policy in agreeing to finance two consecutive degrees;

- Ministry acknowledgment that USAID will provide visa sponsorship only to students who are fully financed under the project and who appear on the MUST student list submitted to USAID/Tunis;
- MUST agreement to provide realistic degree completion dates for individual students;
- MUST agreement that extensions will be approved for one semester at a time contingent upon MUST providing to USAID an a priori, adequate justification for the extension;
- Continuous and complete reporting on all facets of the Project by MUST to USAID and the AID/Washington OIT Office (specifics delineated); and
- USAID agreement to MUST's request for support for a data entry person in lieu of the additional Academic Advisor provided for in PIL 18.

As a result of AID/Washington requirements that USAID/Tunis report monthly on whether students who have graduated have returned to Tunisia, it was agreed that:

- a. USAID/Tunis recruit a person for one year to do follow-up of newly graduated students;
- b. the Ministry and MUST design a procedure prior to November 30, 1988 whereby students are required to report immediately when they return to Tunisia; if such a system is not in place by that date, the Ministry and MUST agree to earmark funds from the Technical Assistance budget in Amendment 8 to provide funds for USAID to enter into a personal services contract for the development of an appropriate contact system;
- c. funds would be earmarked to provide for a direct personal services contract for one year for assistance to USAID for project administration and management;
- d. the Ministry and MUST would provide assistance to returned graduates to assist them in finding suitable employment in Tunisia; and

- e. MUST will use Handbook 10 as a reference for implementation of the TT program in conjunction with Amendment No. 8 and PILs countersigned by the GOT.

PIL 29, dated January 27, 1989, earmarked \$5,000 for the development of a student contact and follow-up system as first mentioned in PIL 24. PIL 31 dated September 25, 1989 further addressed this need by providing \$65,000 for a grant to AMIDEAST/Tunis to assist the Ministry and AID in developing a long term follow-up system for graduates. AMIDEAST was to act as a liaison between AID, MUST and the Ministry to develop re-entry counseling, job search assistance and to facilitate professional networking efforts. The Ministry also agreed to recruit a person to be in charge of follow-up on graduates from the Project. This person was to work in the Ministry and to collaborate with AMIDEAST and USAID/Tunis on follow-up activities.

PIL 31 also provided for more rigorous enforcement of the J-1 two year return home visa requirement and the payment of all allowances per the stipulations of Handbook 10 for the 1990/1991 academic year and through the end of the program. (MUST was providing stipends at a rate well below that required by A.I.D. regulations.) It provided for a continuation of visa sponsorship for a limited number of students who previously had other forms of support but whom the GOT had already accepted into their third degree programs when Agreement No. 8 was signed on March 28, 1988. The agreement stipulated that USAID would facilitate J-1 visa status only for those students funded under TT.

PIL 37, dated August 27, 1990, reiterated and clarified mutual understandings of the policy and procedures for the TT Project for the 1990/1991 academic year. Of particular interest is an agreement that the project would accept up to 10 graduates from Lycee Ariana as undergraduate scholarship students as a result of President Ben Ali's specific request to President Bush in May 1990. Subsequent to funding availability, these Ben Ali-Bush scholars will be switched to a separate program.

PIL 37 also stipulated that the revised Student Handbook reflecting project rules and procedures would be provided to USAID/Tunis by November 1, 1990. This reiterated USAID's intention to enforce the J-1 visa return requirement. It also reiterated that in order for MUST to make optimal use of its computer system technical assistance and training was required and that particular attention should be given to the computerized reporting of changes that occur in students' academic status. This PIL combined two previous earmarks for a total of \$48,000 for this purpose.

The Project has been amended 12 times since 1981. At present, USAID finances approximately 90% of all costs. To date, USAID

has obligated \$45 million and disbursed \$42.4 million. Currently there are 230 sponsored students studying for B.S., M.S. and Ph.D. degrees in 65 U.S. universities.

With regard to short-term training, as of June 1990, \$309,000 out of a total committed amount of \$1,015,000 has been spent. Thirty-seven programs funded with this money have served sixty two students.

A mid-term evaluation of the Technology Transfer Project was undertaken in 1985; audits were conducted in 1985 and 1988. The revised Logframe (see Annex A) reflects changes in project objectives, goals and outputs over the life of the project.

USAID's continued efforts to negotiate improvements in project design and implementation have been motivated by four principal objectives:

- 1) render the project more supportive of and responsive to GOT structural adjustment policies and private sector development;
- 2) bring the project into compliance with USAID agency-wide policy and procedures;
- 3) provide USAID/Washington with required documentation and tracking data; and
- 4) contain overall project costs.

1.3 Project Goals and Objectives

The primary goal of the Project is to educate and return to Tunisia a critically needed number of trained graduates in selected disciplines. The education process incorporates U.S. technology and problem-solving approaches which are particularly significant to the GOT's structural adjustment goals (PIL 24/1988, RIG Audit). Within the foreseeable future, it is anticipated that these graduates will apply their newly-gained knowledge and skills to operating effectively in key positions, thereby contributing to the transformation of the Tunisian economy to a more dynamic and productive one.

1.4 Project Status

Since 1986 the Project has been primarily a scholarship program, designed to meet the academic and technical skill needs of the country. Except for the Ben Ali-Bush Scholars (BABS), nearly all of the students who have recently entered the program have B.S. degrees and are now funded for a maximum of two consecutive

degrees (M.S. and Ph.D.) by the project. At PACD, September 1992, there will be approximately 150 students still in the training pipeline. In order not to waste the investment made in these students to date, sources of funding need to be identified in order to allow them to complete their degrees. Strong anecdotal evidence suggests that M.S. level students are frequently able to obtain at least tuition support from the universities they are attending if they continue in advanced degree programs. Since USAID funding under PROS will be limited (perhaps only 25-50 scholarships will be awarded over the LOP), project funds will be insufficient to cover both the pipeline students and the anticipated cohort of new students to be funded under PROS. The critical question is how can USAID and the GOT protect their unfinished investment in pipeline students in light of the limited USAID funds available?

1.5 Evaluation Methodology

The methodology used by the Technology Transfer Evaluation Team during their six week evaluation period consisted of a review of historical project development documents, a review of all key project amendments and logframe, and reports written by consultants as part of evaluations and audits. Interviews were conducted with USAID, GOT, and Ministry officials concerning project objectives, implementation issues, and problems and constraints (see Annex C for list of persons interviewed). Interviews with USAID officials provided insight into the goals and objectives of the PROS project.

Data were gathered on a wide variety of issues at different levels of project implementation; from micro-management issues to conceptual ones, with emphasis on lessons learned for PROS. Team members focused on areas of particular importance as these areas were related to the individual consultant's area of expertise and experience. Team members prepared for interviews by studying relevant documents and reviewing the SOW. Key meetings were attended whenever possible by the entire team; at other times however, the team split up. Eight TT returnees currently living in Tunis were interviewed. In some instances informants had no previous direct contact with the Project but were interviewed for their views related to private sector needs or linkages between the public and private sectors.

Other methodological techniques employed by the team included meetings with key persons involved in project monitoring and implementation or in other USAID projects contextually related to TT. A bibliography of documents reviewed is presented in Annex A.

2.0. ANALYSIS OF PROJECT COMPONENTS

2.1 Long-Term Training

The process of selection and placement of students is managed entirely by the GOT in Tunis and in the U.S. through their administrative offices at MUST. This arrangement was established by mutual agreement of USAID, the GOT and MUST. USAID provides support services to the project in Tunisia through a small subcontract with AMIDEAST (signed in 1989), primarily in the form of pre-departure orientation and re-entry placement and counseling. USAID staff have oversight functions for monitoring pipeline resources and overall accountability for successful project implementation. Although technically established as a **project**, the management mode more closely approximates that of a **program**, in that almost all implementation responsibilities lie within the province of the GOT. This incongruity will be discussed later as it has a direct bearing on problems of accountability that have been associated with the project from its inception, and it has implications for the design of PROS.

2.1.1 Selection Policies and Procedures

Students learn about the TT scholarships from their respective Tunisian universities, through MOE announcements, or by word of mouth. The selection process is usually carried out during the summer. Policy requires that the Tunisian universities submit applications for students mainly on the basis of their achievement scores as measured by grade point average (GPA). The universities submit computer-generated lists of their highest GPA students to the Commission Nationale des Bourses which is comprised of representatives of several ministries. The Commission selects students from among the lists and sends them to a special committee which determines the final participants. This committee is comprised of the Directeur des Affaires Estudiantines, the Director General of Enseignement Superieur, the Director of Cooperation International, and the Director of MUST. In the event of a tie, the committee chair maintains the final selection authority.

2.1.2 Rules and Regulations

GOT rules and regulations specify that students with the highest GPAs will be selected. Students who have entered the TT program to date have all come from universities. No scholarships have yet been awarded to private sector candidates employed in Tunisia, although there is no regulation restricting eligibility to university-based applicants. In light of the need for private sector development and project objectives that support this development, the selection process would seem to be remiss in not drawing from a broader recruitment base.

2.1.3 Policies and Procedures for Consecutive Degrees

For students who wish to pursue a second consecutive degree (Masters or Ph.D.) beyond their first degree, eligibility is determined by MUST and is dependent on the student's U.S. GPA and national "training needs" criteria as determined by the GOT and MUST. As part of their application for selection for a continuing degree, students must submit to MUST a file with recommendations from faculty at the university in which they are currently studying. The Director of MUST makes final decisions on sponsorship.

This process places considerable power in the hands of the Director of MUST. Anecdotal evidence indicates that some students who are selected for continuation of their studies have already secured financial support, usually in the form of tuition waivers but sometimes also in the form of financial aid, from their U.S. universities prior to submitting their application for USAID funding. As a result, some students who "receive" USAID scholarship support are actually sponsored by their host academic institutions. It is likely that the USAID funds are used to support other students and hence the resources still address the cause of human resource development in Tunisia. However, there is no assurance that project funds are being used to sponsor students in disciplines that are the focus of the project.

In light of the pipeline requirements for funding students currently enrolled under the project, a full and accurate accounting of financial support of all students would seem to be in order. It may well be that the shortfall in funding claimed by the GOT is substantially less than that projected when other funding sources are taken into account. The process of extending student stays in the U.S. has also revealed that a number of scholarship recipients have personal resources that are sufficient to at least partially subsidize the cost of their training. There is a growing awareness in the government of the importance of factoring an individual's economic background into the selection process. Although there is no evidence that suggests that full or partial cost recovery has been seriously considered as a viable, important element in scholarship support, it is now the thinking of some government officials that this should be considered.

The World Bank is in the process of designing a large primary education project that will revamp Tunisia's basic education system. As both the quality and quantity of primary graduates increase, so will pressure for admission into secondary, and ultimately, tertiary levels of schooling. USAID can play a critical role in helping to shape a fiscally responsible university-level training program by facilitating the government's exploration of cost recovery schemes. The mechanisms for experimenting with private support for public

services should begin during the final stage of the TT project. More will be said about this in the recommendation section below.

2.1.4 USAID'S Role in Selection

USAID has not been involved in the student selection process to date despite recommendations by the 1988 RIG Audit that USAID/Tunisia ensure compliance with AID participant training regulations, such as affording priority to economically disadvantaged students. USAID can play a catalytic role in enabling the GOT to rethink its total dependence on public resources for support of university level training and in suggesting ways to diversify its recruitment pool. The World Bank will, in due time, place conditions precedent on higher education loans.

Realistically, USAID staff constraints will not permit greater supervision of the selection process. Evidence indicates that the GOT selection process is relatively fair and results in the selection of the nations's brightest students no matter what their income level. However, since students are selected on the basis of GPA and the quality of their Tunisian institution, it is inevitable that the "best" students are disproportionately drawn from Tunis and the surrounding environs. The best schools and the students who are financially most able to persist with their studies are located in this area. With the limited number of scholarships projected to be funded under PROS, USAID and the GOT should give equal consideration for funding to students from outlying areas.

2.1.5 Constraints

Discussions with staff from MUST, the MOE, TASK Directors, and AMIDEAST revealed that the present selection process does not give enough consideration to financial need. There are some students in the program who could pay for some or all of their U.S. education.

The present selection process does not include aptitude and attitude testing and other types of qualitative background information such as personal interviews. These types of data-gathering instruments could provide information that would complement achievement-based criteria and might provide additional support for the candidacy of individuals from outlying areas who have lower GPA scores and who come from less prestigious academic institutions.

2.1.6 Recommendations

1. It is recommended that the GOT revise its selection policies and procedures for future participants. Consideration should be given to the inclusion of: evaluation of individual need, personal interviews, and aptitude and attitude assessment as practicable. Addition of these criteria will not only help to ensure fairer evaluations, but may also facilitate the promotion of greater equity in selection on the basis of economic background, region of residence, and gender. The use of more broad-based criteria could also assist students to apply for and secure scholarships directly from U.S. institutions. This, in turn, would result in decreasing the financial support required from USAID and the GOT in furthering the studies of deserving students.

Assistance to the GOT on this issue might take the form of a technical paper tailored to Tunisian needs or the form of workshop for MUST and key staff in Tunisian universities.

2. Apparent inconsistencies in GOT accounting for the obligation of scholarship funds to specific students should be remedied. USAID faces two clear options. The first is to allocate a set amount of funds per year to the GOT for transferral to MUST to cover the cost of an agreed-upon number of scholarships. If students who are currently under USAID sponsorship are able to secure their own funding for further studies, the funds can either be remanded to USAID or can be used to support other worthy students without further obligation on the part of USAID for that particular student beyond the period covered by a particular tranche of funding. In other words, if the GOT chooses to reallocate a particular scholarship to another student, they may do so on the condition that the GOT is responsible for all subsequent expenses including HAC and visa processing. An aberration of program funding, the strategy currently employed by MUST is being used to pressure USAID to support students beyond intended funding levels. MUST and the GOT should be required to provide semi-annual accounting of information in accordance with requirements already in effect. Failure to do so should result in a shrinkage of the next tranche. This option places accountability solely on the shoulders of the GOT and MUST and further protects the Agency from spiraling scholarship obligations.

The second option places USAID at the forefront of fiscal monitoring. Under a traditional form of project assistance, MUST should be obligated to provide detailed tracking information on each specific student funded by USAID. If a student secures independent funding from a U.S. institution, the scholarship is forfeited and may be re-obligated by USAID for other project purposes. This type of tight reporting has thus far failed to

materialize in the project, in part because of insufficient USAID staff to manage the project at this level of detail, in part because MUST has failed to comply with reporting requirements, and in part because of insufficient communication among the three primary implementing agencies: USAID/Tunis, the GOT, and MUST.

The evaluation team understands that USAID follows a Fixed Amount Reimbursement (FAR) approach for obligating and accounting for funds. The preceding observations are not meant to imply that U.S. assistance funds are being misallocated. Under the current system it is just not possible to demonstrate more than that there is a correlation between project obligations and the number of Tunisians studying in the U.S. As long as the funds are being used for the type of training that was intended, it does not matter whether specific students are the unit of analysis. If the funds are being used for other purposes, however, that is another matter.

Of greatest consequence is the fact that, in the absence of an open-ended, merit-based selection policy, the social cost to Tunisia of not training the best students is quite high. On the basis of interviews with key project personnel it seems unlikely that MUST reporting will improve. The appointment of an American advisor to serve in MUST for the purpose of improving accountability failed after a short period. Doubts remain about whether the staffing levels at MUST are sufficient to match staff responsibilities, whether recruitment has emphasized the wrong skills, or whether qualifications of staff are sufficiently high. Services provided by MUST have improved in the last two years however they remain insufficient for project implementation purposes.

Thus, it is recommended that if USAID chooses to continue with a project mode of implementation, a U.S. or Tunisian contractor (private sector) be retained to ensure compliance with A.I.D. procedures and regulations as defined in Handbook 10. If MUST and the GOT maintain that they can and will comply with these procedures, then a clearly defined set of requirements and expectations that highlight past reporting deficiencies should be developed by USAID for compliance by MUST. Annual obligations should be linked to satisfactory reporting by MUST. These should be discussed in a public session and agreed to by all parties before subsequent tranches of funds are committed to the GOT.

Of the two options, the "program" mode of operation would appear to be the most expeditious way to satisfactorily achieve project objectives and to maintain respectable standards of accountability. This option is also recommended for implementation of the scholarship program under PROS. More will be said about funding pipelines and accountability in a later section of this report.

3. USAID and the GOT should design selection procedures for short-term training under PROS to include individuals in both the public and private sector, giving special attention to appropriate geographic and gender representation.

2.2 Placement Policies and Procedures

2.2.1 Student Placement

Students are placed in U.S. colleges and universities primarily by MUST. In most cases, MUST identifies several institutions which meet placement criteria and thus affords students some choice in the institution that they will attend. MUST uses pre-packaged software programs as well as other staff-generated listings of accredited U.S. colleges and universities, to generate information on qualified and reliable institutions.

2.2.2 Institutional Quality

There are a few students studying in highly competitive, high-cost U.S. institutions. These include Princeton University and Stanford University. However, most students attend moderately priced schools that have nonetheless excellent standards.

2.2.3 Financial Considerations

The cost ratio of the Project is affected by the number of students served by the program, the cost of the U.S. institutions attended, the length of time students remain in the program and the cost of project management. It is difficult to say how efficient the project has been because data have not been disaggregated by student. Because most participants have obtained more than one degree, because they may have received one or more extensions on their time in the States, and because project management costs have not been clearly delineated relative to the training portion of the project, unit costs can not be readily calculated. Per student costs are very misleading since periods of study vary between 2 and 10 years. In order to accurately assess training costs, student years or student semesters supported must be divided into total tuition expenditures, including all associated costs of selection, pre- and post-departure training and scholarship management (including the contract with AMIDEAST and funding for MUST).

Whether or not USAID chooses to use a project or program mode as it completes the processing of students in the TT pipeline and assumes responsibility for additional students under PROS, unit cycle costs for participant training should be calculated. It is the only way to ascertain whether project objectives are being met in an efficient manner. Unit costs are also a key benchmark

indicator for measuring GOT and MUST performance, especially under a program mode of implementation.

2.2.4 Final Placement Authority

All areas of study at the B.S. level are determined by the Commission, reportedly with recommendations by the Committee. Students selected for advanced graduate study (Masters and/or Ph.D.) may be given some choice, based on prior field of study and the acceptance of their application by their prospective university. Final placement authorization is granted by MUST. There is no evidence to suggest that placements have been made with other than quality and cost-effectiveness as criteria.

2.2.5 Constraints

The MUST Academic Advisor position, formerly filled by an American, has been vacant since June 1990. USAID was informed in January, 1991 that the position was no longer needed. This has caused some gaps in the flow of information to MUST about the character and quality of U.S. academic institutions that otherwise might be suitable training sites for Tunisian students. Although the team could find no complaints about student placement, institutional variety produces in students greater heterogeneity in the definition of problems and in the quest to resolve them. Variety should not be sacrificed for the sake of convenience.

USAID staff have little time to cull information from project documents to calculate training costs, except in aggregate (rather meaningless) form. Even if the time were available, the records provided by MUST leave some doubt as to their validity, at least in terms of support provided to individual students. Thus, it may never be possible to calculate a truly accurate unit training cost for the TT project. However a close approximation can be obtained by a cursory check of documents from which the number of student semesters paid for over the LOP are extracted. These data would be very valuable in estimating costs for long-term training under PROS and for holding the GOT and MUST to ceiling levels of financing for the new participants.

2.2.6 Recommendations

1. If PROS contains long-term training for Tunisians and if USAID decides to continue to draw on MUST's services for the remainder of TT and in the implementation of PROS, it is recommended that funding be made available to MUST to retain the services of a U.S. consultant or training firm thoroughly familiar with academic placement in wider variety of U.S. institutions. The contract would provide MUST with assistance in placing students in a wider network of schools, preparing semi-annual statistical reports for USAID, and in offering on-

site technical assistance to MUST staff as needed. Recruitment of an appropriate individual might include candidates including semi-retired and retired persons willing to work on a personal services contract basis. This pool is highly qualified and, on such a payment basis, would be economical to the project.

In addition, MUST should make use of Washington, D.C.'s extensive resources in foreign student advising. Subject to funding availability, MUST staff skills in counseling and placement should be upgraded through networking opportunities and workshops offered by professionals in the field (NAFSA for example). Staff should also visit and study other college placement offices working with foreign students in an effort to improve MUST operations and student placement and support services.

2. A cost study of the TT project in which unit costs as discussed above are calculated, is highly recommended. This investigation should be undertaken as soon as possible, and certainly prior to the completion of the Project Paper for PROS. Such a study should require the services of an experienced consultant for a maximum of a three week period of time. Assistance from USAID/Tunis staff would be required during the TDY period in helping to locate appropriate funding documents and student information. A portion of the work could be conducted in Washington in the MUST office. These data are essential to accurate planning for PROS and in dealing realistically and empirically with the GOT on the TT student pipeline issue.

3. It is also recommended that USAID crystalize its experiences in long-term training by funding a week-long workshop for Tunisian university officials and select staff from the Ministries of Plan, Finance, and Education in Tunisia in which motivations, and strategies for cost-recovery schemes, especially at the university level are explored. This workshop would be an ideal utilization of funds for short-term training as projected for PROS or that remain to be spent under TT. It would also lay the groundwork for more efficient use of GOT resources on future overseas training. The workshop, if held in the U.S. might consist of two weeks of seminar/workshop experience sandwiched around visits to universities and planning experts such as those at the World Bank and various consulting firms that are experienced in these issues. The workshop would also have the additional benefit of indirectly generating understanding of USAID's position on the student pipeline issue. The workshop should also cover topics such as degree equivalency, assessment of qualifications and affirmative action.

2.3 Selection of Fields of Study

2.3.1 Student Choice

The Commission and/or the Committee determine disciplines for program participants pursuing B.S. degrees. Students selected for advanced degrees are in some instances able to expand on choices designated for them, but final decisions are made by the MUST office.

Priority human resource development needs have been generally determined by the Commission based on information garnered from other branches of the Tunisian public sector, including the national university system. Since 1987, efforts to identify more specifically actual manpower needs in both the public and private sectors have been made by USAID through analysis of the GOT structural adjustment plan and by examination of needs related to national efforts encouraging privatization. USAID and World Bank studies and surveys have aided this effort. As a result, areas of study open to students on foreign scholarship have broadened in recent years to include business management, computer science, agri-business, and economics, among others.

The GOT has clearly subscribed to a merit-oriented system for choosing students and as a result, of subsidizing those fields of study that are of particular interest to the students selected. The evaluation team favors increased reliance on needs-oriented criteria based on skill requirements in the society as a whole coupled with the use of individual merit criteria for selection of students. This conclusion is of more relevance to the GOT than USAID at this point in the project since it is doubtful that long-term training will be supported under PROS.

2.3.2 Student Information and Counseling Services

Students are provided information and counseling services about particular areas of study by MUST in the form of the Student Handbook, newsletters, a computer network, special announcements, and through a limited number of campus visits. Students also have access to their university counselors and libraries. Student associations such as TSS and TASK, other students, friends and family also provide informal support. Perhaps the scope of work under the grant to AMIDEAST/Tunis, could be expanded to take advantage of AMIDEAST/Washington services regarding pre-departure and re-entry training and counselling. Although an increase in these services might not increase the return rate, it should result in a smoother transition to Tunisia and a shorter period of unemployment upon re-entry.

2.3.3 Constraints

The academic community in Tunisia has, ipso facto, determined the disciplines in which students are eligible to major. Emphasis has been placed on engineering despite the obvious need for technical training in other disciplinary areas. Little empirical data are available with which to calculate projected manpower needs. Interviews with GOT officials revealed that plans to conduct a survey to procure such data through implementation of a partial or country-wide manpower survey/plan are currently under consideration. Under the PROS umbrella, USAID might take a leadership role by sponsoring a workshop on strategies and techniques for conducting such assessments. Representatives from both the public and private sector should be participants.

Student choice concerning fields of study is limited by determinations made by MUST, which in turn has insufficient knowledge of the structure of the American university system to provide adequate counsel to students on the range and appropriateness of choices. For example, there is a high probability that engineering graduates will also serve as managers (production or office) at some point after their return to Tunisia. Yet few of those students are encouraged to take courses in the business and management area, yet alone to pursue a graduate degree in the business field as a cognate to their B.S. in engineering. The Tunisian vision of an appropriate, comprehensive education is limited by a conservative approach to human resource development and MUST's unfamiliarity with U.S. academic programs.

2.3.4 Recommendations

1. The GOT should be made aware that students and MUST should be systematically exposed to a variety of perspectives on career development and personal growth. As noted earlier, this could be accomplished by recruitment of temporary consultants, who during, critical university placement and course selection periods could offer advice to students and MUST staff. MUST staff should also avail themselves of U.S. resources that are available to the project at little or no cost. A portion of TT short-term training funds might be used for upgrading the skills of staff and to inform them better about clusters of disciplines that complement and reinforce one another. Study tours for Tunisian and MUST senior staff might also broaden the perspectives of those individuals who are charged with student placement and advisement. Although a campus visit program is carried out by MUST staff, objectives and results of those visits have not been clearly defined or reported.

Increased knowledge on the part of advisors, particularly with regard to the programmatic flexibility afforded by U.S.

institutions would assist students to cross-train (e.g. combine business management, marketing or economics with the major field of study) without increasing the amount of time needed to complete degrees. This would enable students to develop a wider range of skills, to increase their employment opportunities, and also to contribute to the provision of more adaptable manpower resources for the Tunisian economy which is experiencing rapid change. It is not recommended that USAID provide further training for MUST staff if the long-term participant training programs is to be phased out.

2. If new students are to be sponsored under PROS, then as part of the negotiation with the GOT over pipeline funding of TT students, USAID is encouraged to insist that acceptable areas of study for students at the graduate level include disciplines directly related to private enterprise development and the growth of market economies such as: economic planning, computer science, agri-business, finance, international business, accounting, statistics, and organizational behavior.

3. USAID should take the lead in organizing and financially supporting a workshop/ training seminar focused on human resource development needs in the face of Tunisia's changing economy. This workshop should be cross-sectoral in scope and should include relevant bi-lateral as well as multi-lateral donors. Funding would be provided through the short-term training component of TT or PROS. The goal of the workshop should be the generation of an empirically-based study of human resource development priorities. Is such a study has already been commissioned by the GOT, then the workshop should concentrate on cross-sectoral analysis and dissemination of the findings.

2.4 Extension Policies

Students who have the required GPA, as determined by the Commission and MUST, and need additional time to complete their degrees, are usually extended on a semester by semester basis by MUST. There are written procedures for filing extensions in the "Manuel d'Orientation," which covers the agreements of PIL 31 and PIL 37. Requests must be submitted by the student with adequate justification, supported by a recommendation from his or her university.

MUST admits that the process does not provide a consistent or valid method for determining which students are truly in need of an extension and those who are not. The process is more likely to reward those who are clever than who are meritorious. Without relaxing standards of eligibility, the criteria should allow exceptions to students who can demonstrate true financial need or extenuating academic circumstances. Anecdotal evidence points to the fact that a rather large percentage of students delay their

return to Tunisia by requesting and receiving extensions even though there is no academically-related reason for doing so. Delays in returning to Tunisia account in part for the relatively low return rates noted earlier. Whether a student ultimately chooses to return to Tunisia is one issue; whether they should be subsidized by USAID during their delay is quite another.

Extensions continue to be granted to students by MUST, which in turn informs USAID of these actions post hoc. This practice is clearly contrary to the terms of PILs 31 & 37 which require that documentation be submitted to USAID prior to approval of any extension even though final determinations on extensions are made by MUST.

2.4.1 Constraints

Because the extension process has been handled informally by MUST, there is little evidence to support the legitimacy of the extensions. Since USAID is informed of decisions after the fact, the Agency has almost no influence on MUST's discretionary control of funds. Accountability is sorely lacking and the procedures employed are clearly in violation of PIL agreements.

2.4.2 Recommendations

1. The limits on student extensions that were established in PIL No. 18 appear to be violated with some frequency. USAID should insist that MUST immediately begin to submit required documentation to USAID prior to granting requests for extensions. In addition, USAID and MOE/MUST should review PILs and project documents to assure a mutual understanding of required procedures. If necessary USAID should withhold dollars from future funding tranches equivalent to the value of inappropriately cleared extensions.

2. If not already part of existing agreements, USAID should establish a rigid policy of not authorizing extensions for longer than one semester for Bachelors and Masters level students and one year for Ph.D. level students.

3. These established policies and procedures should be clearly detailed in the Student Handbook and emphasized to students during their pre-departure training and be re-stated in written communication to them at the beginning of their scheduled last year of study.

3.0 PROJECT MANAGEMENT

Because of the evolutionary, sometimes ad hoc development of the project, an integrated management system has been difficult, if not impossible to develop. Lack of counterpart representation in the early stages of the project, increasing monitoring responsibilities thrust upon the shoulders of a diminishing USAID staff, and difficulties in obtaining reporting compliance from the MUST office have all contributed to the development of a management structure that none of the key parties understand completely, and which if continued, will lead to even greater misunderstandings about project expectations and USAID commitments.

3.1 Overall Management

As a result of the previous two audits and pressure from AID/OIT, in 1986 the project shifted from a program that was primarily a political response to assistance requests from the GOT to more closely resemble a standard A.I.D. participant training program. USAID was required to bring about GOT adherence to training program controls through implementation of the PILs and Handbook 10 regulations, agreements, and conditions. By decreasing the number of degrees from three to a maximum of two, and by elimination of new BS students (except BABS) students, it was felt the project could increase the number of sponsored graduates returning to Tunisia, and in turn achieve better overall performance results from the participants.

The evaluation team has concern about the wisdom of investing as much as \$250,000 or more in single students. These long periods of study coupled with high extension rates appear to produce high per student costs. An effective and more appropriate measure of efficiency is cost relative to total number of student semesters of training paid for by project funds. In light of all the reporting and staffing difficulties that have been alluded to, it is not surprising that informative, valid cost data are not available. However, without such information it will be impossible to hold MUST or the GOT accountable for obligations. It is essential for audit purposes that USAID have access to this information, and it is critical to the notion of policy development and sustainability that the GOT understand why and how cost monitoring should be conducted.

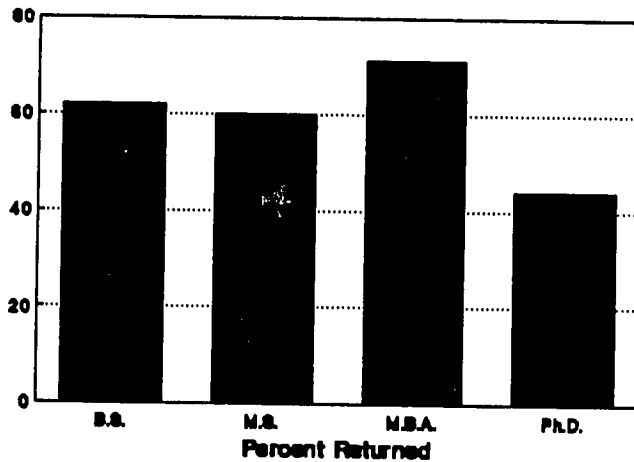
USAID is funding a data entry position in the MUST office in Washington, D.C. It should not be difficult to obtain the information from this person that is necessary to calculate the cost ratios that would shed light on the efficiency of USAID's large investment. The technical capacity to retrieve the data

must be complemented by an understanding of the underlying purpose to which the data will be put. However, MUST has rejected the need for a computer operator/management information specialist by abolishing the position after USAID agreed to cover salary costs. A minimum of \$28,000 is available to MUST via a USAID commitment to pay for computer skills training for MUST staff.

With assistance from a Washington-based consultant to help design a reporting scheme (one week should be sufficient), USAID should be able to obtain accurate, up-to-date, cost and pipeline figures on a consistent and dependable basis. Failure to insist upon and collect better cost and enrollment data will only lay the groundwork for continued misunderstandings and speculations about the appropriateness of the level of project support given by USAID.

MUST and AMIDEAST data indicate that the overall project dropout rate averages 10% with a return rate of 61%. These rates vary by degree level as noted in Figure 1 below.

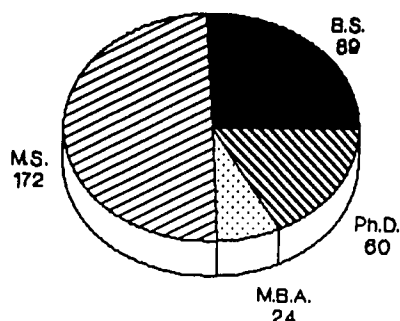
Figure 1: Return Rates by Degree



Source: AMIDEAST Report 11/80

Project record-keeping procedures do not permit tracking of students beyond several months after they have left project sponsorship. Hence, it is not possible to say how many "non-returnees" ultimately come back to Tunisia. The data cited above however, clearly indicate that at least the lowest initial return rate is for Ph.D. students (37%) and the highest rate is for M.B.A. graduates. Ironically, support for M.B.A. students has been the lowest of all degree categories as shown in Figure 2.

Figure 2: Number of Degrees by Type



Source: AMIDEAST Report 11/90

In keeping with current A.I.D. Regional Bureau priorities, it would appear that scholarship emphasis on business/private sector development is not only appropriate but is also effective - at least as measured by return rates. Perhaps in part because USAID has had so little involvement in student selection and placement, other disciplines have been emphasized by the GOT, ie., especially engineering. If USAID is to redirect the application of these scholarship funds, it will be necessary to clearly delineate priority fields of study, and then to monitor and enforce the implementation of those priorities. Strategies for accomplishing this were discussed earlier under both a program and a project mode of operation.

Operationally, the Project has suffered from lack of consistent MOE counterpart services and interaction with both MUST and USAID. This has resulted in the vesting of a great deal of project authority in MUST. USAID, partly through design, has had minimal contact with the GOT and has intervened in project management more in reaction to project crises than in a proactive, guiding fashion. It seems appropriate that given the questionableness of GOT attitudes towards cost-recovery, major fields of study, and higher education development policies, USAID play a supportive, consultative, but directive role in the design and management of training opportunities that it supports, or design alternative implementation arrangements.

No anomalies have been found in the financial management of the project as evidenced by the two project audits conducted to date. However, as noted earlier, an effectively run project is not necessarily an efficiently conducted activity. A thorough financial analysis should examine questions including but not limited to:

- o How many total student semesters have been paid for by the project to date?;
- o How many semesters of extension have been paid for by the project to date?;
- o What is the mean length of time between beginning a degree and completing it, by level of study?;
- o What percentage of scholarship students actually received tuition and/or financial support from their U.S. university?;
- o What percentage of the students above continued to receive USAID funds?;
- o What attempts have been made to institutionalize the services provided by MUST? To what extent could they be co-financed by other bi-lateral or multi-lateral activities?
- o What is the economic rate of return (social and private) to investment in foreign training by level? What are the implications of these findings for cost recovery?

From an operational stand-point the project has suffered from lack of consistently involved GOT counterpart personnel. As a result, understandings among the GOT, MUST and USAID have been weak and have led to a host of minor, but nonetheless thorny, time-consuming problems.

Additional difficulties have arisen due to:

- o Pre-departure services provided to students in Tunisia by Amideast do not take full advantage of local and national resources in the U.S. such as Chambers of Commerce and business organizations. Community associations also frequently provide information about the locale and about community services and standards. Students would appreciate having this literature in their hands prior to their actual arrival in the university community.
- o Insufficient, late submission of project monitoring data cause by inefficiencies in the MUST office and by a lack of pressure/enforcement placed on that staff by responsible USAID officers. Under-utilization of software and other information resources by MUST.
- o Insufficient, unsystematic monitoring of data submitted

by MUST to the GOT and USAID.

The project has suffered from lack of sustained long-term vision. Incremental changes in project objectives that have been necessitated by a host of exogenous factors have made an integrated vision of the TT difficult, if not impossible to achieve. In light of this flux, it is remarkable that as much continuity of programming has been achieved. Basic management structure, including designation of responsibilities and authority through use of accurate organizational flow charts, job designations and descriptions, project management policies and procedures, and reporting requirements, have not been consistently formalized. Since 1988, USAID, the MOE, and MUST have implemented some changes (through the PIL's) which should increase the efficiency of the project.

3.2 Tracking and Reporting

3.2.1 Requirements of MOE, USAID, and AID/W

The tracking and reporting responsibilities of the project rest with MUST and are spelled out in detail in the PILs and Handbook 10. The information needs of A.I.D's Office of International Training in Washington (OIT/W) have increased during the life of the project and have been communicated to MUST which however, continues to be only partially responsive to these requirements.

The timeliness and accuracy of MUST-generated data are limited by under-use of its computer capabilities. Requested documentation is often provided after decisions have been made, as for example, in the case of student extensions.

MUST also claims that it is required by the MOE to do certain manual data entering and reporting (i.e. view canceled checks, maintain payment records, etc.). MUST has requested technical assistance in managing computer systems, and PIL 37, August 27, 1990, combined previous PIL designations to authorize \$48,000 for such assistance.

The project tracking software system, constructed around Data Base II, is more than adequate to handle the tracking and reporting needs of the project. This system could be, but is not, tied into the data base at OIT/W. PIET, for example, downloads required data on participants directly into OIT's database. This capability could greatly reduce the work of data entry staff at OIT/W. Instead, OIT participant data forms are submitted by MUST for each new student and status change.

However, the present staff at MUST are not yet conversant with computers much less data base systems. Functions are still performed manually which should be computerized. A small

investment in skill training would result in long-term savings to the project and would help MUST to respond more effectively to data requests from USAID.

MUST recently hired a data entry specialist to input basic student data such as names, fields of study, expected graduation date, GPA, etc.. By nature of his job definition, he does not possess the skills necessary to develop the computer system to its fullest potential. A professional analyst should be consulted on what kinds of data need to be routinely collected in order to improve cost and performance monitoring.

3.3 Staffing Levels

3.3.1 GOT - Ministry of Education

The MOE has had extensive turnover within the Office des Affaires Estudiantines and related divisions. As a result, there has been little consistency in counterpart relationships between the MOE and USAID. In fact, for a good part of the project, there was no MOE person to whose attention problems and questions could be brought. Monthly phone calls and quarterly, face-to-face meetings between key GOT and USAID officials are considered a minimum to strengthen this connection.

3.3.2 MUST

Among other problems noted earlier, MUST lacks adequately qualified staff. The Advisory Services unit has yet to perform fully its responsibilities and functions for the project. Because MUST does not have its own budget (it operates from within the Tunisian Embassy in Washington, D.C.), communications with Tunis are sometimes delayed over obtaining Embassy clearance for phone and fax transmissions. Removal of petty, logistical barriers to communication would help coordination immensely.

3.3.3 USAID/Tunis

USAID staff will not have the luxury of more time to devote to project monitoring, nor should more be required. A number of recommendations made earlier in this report indicate how USAID might draw upon the services of consultants or MUST staff. These suggestions should help to specify data monitoring requirements and to clarify management procedures. Of critical importance however, is regular, well-informed contact with the MOE counterpart as noted directly above. Absent an improvement in communication, it is doubtful that project agreements will be adhered to with any more vigor than they have been in the past. Periodic, direct involvement of senior USAID management can only serve to reinforce the importance attached to USAID regulations and agreed-upon project procedures. The consultant reports and workshops recommended earlier should be used to inform USAID

management about appropriate data expectations and as the basis of constructive, but firm negotiations during the development of PROS.

3.3.4 AID/W-OIT

The OIT office has had little liaison with MUST. At minimum, more coordination, even on an informal basis, would be useful. The initiative for such a collaborative effort must come from USAID with the consent and endorsement of MUST.

3.3.5 AMIDEAST

AMIDEAST/Tunisia presently has sufficient, capable personnel to handle the needs of its cooperative agreement with USAID under the TT Project. If the agreement with AMIDEAST were to be renewed, it should include negotiation for services that could be rendered to USAID and the GOT as described earlier in this report.

3.3.6 Constraints

Based on interviews with past and present Directors of MUST and with officials from the MOE, it is the team's opinion that at present MUST, not the MOE has primary management responsibilities for this project. Channels of communication among the GOT, MUST and USAID are unacceptably weak, especially concerning reporting and performance.

AID/OIT, USAID and the MOE are forced to rely solely on MUST for data reporting and overall administration of the Project. At present there are few backup mechanisms for ensuring that information supplied by MUST is accurate and that adherence to Project requirements (PIL's) is maintained.

3.3.7 Recommendations

1. In conjunction with hiring a computer specialist to assist MUST in regularizing and improving its reports, MUST should seek (with USAID's assistance) advice from OIT on the variables that should be included in a good tracking system. If this is not possible to arrange, the services of an experienced data base manager from one of Washington's many consulting firms that oversee participant training should be secured.

2. The MOE recently appointed a new Directeur des Affaires Estudiantines who has responsibility for TT as well as several other bi-lateral training programs. Regular communication between USAID and this individual should be institutionalized. At a minimum, monthly phone calls and quarterly face-to-face meetings should be established. A similar schedule of communication should be established with officials from MUST.

3. Project management and control rests to a large extent with MUST. If reporting does not improve by the end of the project, consideration should be given to shifting responsibility back to the MOE Office des Affaires Estudiantines or to a private sector U.S. or Tunisian contractor for management of long-term training under PROS.

4. USAID should develop, perhaps with the assistance of a technical consultant, a specific list of data it requires for project monitoring. These requirements plus a suggested reporting format should be forwarded to MUST for inclusion in their office computerization scheme. The list should include sufficient variables to calculate unit costs with accuracy and to track students beyond the period of their scholarship support.

5. If more students are to be supported by USAID under PROS or other projects, prior to sending any more new students for overseas training, USAID and the GOT should have a frank discussion about training priorities and should select and place students in disciplinary areas on the basis of those discussions.

6. The quality of pre-departure (from Tunisia to go to the U.S.) services to students should be strengthened through the efforts of MUST. Local information resources and guides about U.S. institutions and locales should be shared with students well in advance of their departure.

7. As a result of discussions with the MOE concerning training priorities, a clear vision of PROS should be mutually developed and agreed upon. This vision should guide all subsequent project investments. (More is said about this later in this report.)

4.0 PRE-DEPARTURE AND RE-ENTRY ASSISTANCE

4.1 Pre and Post-Training Orientation

Most pre-departure orientations are given by AMIDEAST and/or MUST (during summer periods), on both an informal and formal basis. Although no negative comments on pre-departure assistance were reported to the evaluation team, both organizations feel definite improvements need to be made in orientating students to the objectives of their study programs and to their subsequent opportunities and responsibilities upon graduation and return to Tunisia.

Incoming students and program graduates are provided some assistance with travel and other logistical problems, but usually participants arrange for their own travel.

Assistance for return travel to Tunisia and in completing

individual reporting requirements is provided to students by MUST and the university the student attended. Very little career counseling assistance is provided and thus students tend to postpone job searches until shortly or well after their return to Tunisia. As a result of the cooperative agreement between USAID and AMIDEAST signed in 1989, students are now provided with much more support in job identification, placement and counseling.

These activities are supplemented by informal assistance from TASK, TSS, the Tunisian-American Chamber of Commerce, and by private individuals and organizations. Although no empirical evidence is available to document the effectiveness of these efforts, the enthusiasm with which AMIDEAST approaches this element of the project portends well for the students who have yet to return and for those currently in the throes of seeking employment.

Counseling and guidance for returnees is provided primarily by AMIDEAST through forums and group and individual sessions as part of the cooperative agreement between USAID and AMIDEAST. Returned students have formed two organizations, TSS and the Tunisian Association of Science and Knowledge (TASK), as a means of disseminating information about re-entry problems that capture both the professional as well as the personal side of the transition. TSS reportedly has over 70 chapters in the United States and Canada. TASK now has a reported membership of over 80 U.S. graduates working in Tunisia. It has been particularly active in the past year, sponsoring several forums for students and government representatives to discuss issues of concern to both graduates and current program participants. Interested business persons who are members of the Chambers of Commerce also provide independent contacts and opportunities for networking and mentoring.

In short, the Tunisians have been remarkably successful in starting self-help groups upon their return from studies. Counseling however, does not necessarily guarantee employment. Some students complain that after such a long period of time overseas, they are at a significant language disadvantage, they have a limited network of friends and colleagues to draw upon for support, and they are unfamiliar with the way the occupational search process "works".

4.2 Job Placement Assistance

Under its grant from A.I.D. project funds, AMIDEAST the main provider of employment-related services for the project, offers one-on-one re-entry counseling and sponsors special forums and annual meetings. The counseling sessions have proven very useful in helping returnees make difficult cultural adjustments and in understanding the limits and possibilities of the job market. As

a result of the cooperative agreement between USAID and AMIDEAST, the latter expanded its services and staff in 1989; it now offers job identification and placement services to returnees. Present plans call for further development of employment listings, and greater specification of responsibilities associated with particular jobs. The goal is to tighten the link between student skills and performance requirements.

Placement assistance is provided by TASK, primarily through informal personal contacts between returnees and individual TASK members. In the past year it also organized several seminars which attracted large numbers of returnees and private sector employers. The purpose of the meetings was to bring key private sector representatives together with TT graduates to raise issues of concern both to graduates and current program participants, and to discuss strategies and set objectives for maximizing the contributions of program graduates. TASK reportedly plans to make placement a major part of its charter as membership increases and funding permits an increase in its outreach activities. Assistance is also given by TSS, MUST, and through student-initiated contacts with potential employers, friends, family and relatives.

Other public organizations that provide some informal support to returnees include the academic community, IRSIT, API and UTICA. Private organizations include those previously stated, as well as the Chambers of Commerce, consulting groups and businesses including SGI-SIMET and TUNISACIER, which employ some returnees.

4.3 Constraints

By the nature of GOT policy and USAID consent, students have the choice of remaining in the United States during the summer semester or of returning to Tunisia for that period. Although the majority of students return to Tunisia several times in the course of their program of study, few make a serious effort to find future employment or to find summer jobs in their respective fields. This policy is costly in three ways:

- 1) it extends the time it takes students to complete their degree since most universities offer a sufficient number of summer courses to constitute a full academic load that count towards graduation requirements;
- 2) it prohibits students from participating in short-term courses and internships that might enhance their employment chances upon their eventual return;
- 3) it dilutes the pain of separation from family and friends and weakens the incentive to return to Tunisia promptly after finishing their degree requirements.

The GOT's extremely liberal, and generous, policy of not only encouraging but supporting students through as many as three university degrees is unnecessarily costly to society. Scholarship support is disguised welfare distribution. Carried to an extreme as in Tunisia, it also creates a set of expectations in students that are antithetical to free market competition. GOT policies indirectly contribute to the creation of an intellectual cadre who are ill-prepared for the realities of occupational life. The longer students are provided security through scholarships, the less likely they are to be prepared to confront the nexus between supply and demand, and private sector market forces. Ironically, the TT program equips extremely able students with excellent academic credentials but inhibits the acquisition of competitive skills because of the relative "security" that long tenure as a student develops. The phenomenon is not uncommon in American "senior" Ph.D. students. In sum, the GOT policy of encouraging students to make frequent visits to Tunisia may foster national allegiance in the short run but may have longer-term, much more expensive opportunity costs attached to it. USAID has begun to break the cycle and the GOT has begun to focus on the high cost of this approach.

The primary goal of the project, to properly train, return and place graduates into productive employment for the country's vitalization, is being met with 60% success if the graduate return rate is used as the measure of accomplishment. A significant number of returnees are not entering fields of employment for which they are qualified by their training. This is due to several factors including: lack of a contractual commitment requiring graduates to return to Tunisia; GOT policies that are conducive to long periods of support at government expense; employment counseling and support programs that have just advanced beyond the gestation stage.

4.4 Recommendations

1. Students under USAID sponsorship should be encouraged to complete their studies as quickly as possible, i.e., they should be expected to enroll in the summer semester and, except in unusual circumstances, to finish within the allotted time. Return visits to Tunisia should be discouraged for all Masters level students. Ph.D. students should be limited to one return visit in connection with the preparation of their theses. Of course, students can not be prohibited from returning to their country, but they should be obliged to do so at their own expense and without incurring delay in completing their degree program. Their ability to pay for such a trip should raise questions about the appropriateness of USAID or the GOT covering all of their tuition and allowances.

2. Students should be encouraged to participate in at least one practical workshop or training experience that is focused on the acquisition and application of practical skills. More will be said about strategies for accomplishing this recommendation in the options discussed for PROS. MUST, USAID and AMIDEAST should develop a strategy for identifying such training opportunities and for disseminating this information to students. USAID has agreed to fund summer training, but lack of information and bureaucratic snaggles in the GOT and processing time required by USAID have all but made the gesture moot.

3. AMIDEAST, the GOT, and USAID should collectively encourage more private sector participation in re-entry seminars and occupational networking for returnees. A possible inducement for private entrepreneurs might be the offer of short-term training for one or more employees under PROS depending upon their level of commitment to the re-entry process.

4. Students who do return to Tunisia from their studies during the summer should be required to attend a structured "employment development program" which would include interviewing and working with employers related to their fields of study. These contacts and on-the-job training experiences might result in employer commitments to hire a number of Project graduates, thereby improving the return rate and cost-benefit ratio of the Project. The GOT perhaps with the assistance of AMIDEAST through the USAID cooperative agreement, should establish a mechanism for accomplishing these re-entry programs.

5. All reasonable means of increasing the graduate return rate should be explored. Steps might include: a) immediate development of binding and enforceable contracts (bonds) with all existing and future students; b) enforcement of existing PIL requirements; c) increased coordination with U.S. Immigration Service for full enforcement of J-I visas; and d) improved orientation and services during the period of U.S.-based study which will stress Tunisia's investment in each student's education, and the responsibilities which each student has in securing his/her degree(s) and returning to Tunisia to assist in the country's development. These services would logically be provided by MUST.

5.0 SHORT-TERM TRAINING

Short-Term training was added to the project in order to provide the GOT and USAID with greater flexibility in responding to technically specific training needs, especially in skills that are critical to expanding market economies. A total of \$1,015,000 has been committed to this element of the project, but to date only \$309,000 has actually been spent. A three year commitment of \$175,000 has been made to Entrepreneurs Interna-

tional for business skills-related training. This program is to be managed by AMIDEAST but has not yet started to realize its potential. With one year remaining until PACD, it is unlikely that a full obligation of project resources for short-term training will be possible unless a substantial level of effort is devoted to meeting the ambitious scope of this project element.

5.1 Selection Criteria

PIL 23, dated August 16, 1988, added this element to the project. The PIL states that preference is to be given to applicants in activities and sectors in which USAID is presently involved or which reinforce recently assisted USAID activities for which other project funds are no longer available. High priority is to be given to short-term training that directly relates to USAID's market-oriented assistance strategy and that is supportive of the GOT's economic reforms under the Structural Adjustment Program. As a general rule, training in technical specialties in which USAID/Tunis is not or has not been involved are not eligible for support.

5.2 Management Procedures

Both public and private organizations that wish to take advantage of training opportunities submit their requests to the Ministry of Plan (MOP) review. If approved by the MOP, documents are then given to USAID for authorization. If both the applicants and the training activity meet USAID criteria, the necessary documentation (PIO/P, Invitational Travel, etc.) is prepared and funding obligated. In most cases the organization from which the applicants come (either private sector firms or the GOT) is required to pay international travel costs.

As stated in PIL 23, only training programs endorsed by USAID are considered for funding. Training in countries other than the United States for technical areas in which the U.S. has a comparative advantage is also not permitted. Non-U.S. based training is authorized for only A.I.D. Code 941 countries. In order to maximize the number of participants served by the project, training is normally limited to a maximum of four months duration and/or \$20,000 per participant per training program.

A total of 47 short-term participants have been supported as of December 1990. Sixteen of these were from the private/parastatal sector and thirty-one from the public sector. A total of 62 individuals have participated in 37 programs with the venue principally the United States but also including Italy and Switzerland.

5.3 Constraints

Short term training was included in the Project to meet special needs, such as information and technology exchange opportunities, on-the-job training needs, cross-training in skills application, etc. Frequently, training opportunities are discovered with too little lead time for the GOT and USAID to process the necessary paperwork. Unless relevant training programs can be identified far in advance of their beginning, it is unlikely that this logistical bottleneck will be easily overcome.

Because transportation costs are the responsibility of the participant's employer, there is a reluctance to send otherwise qualified individuals from "cash-poor" organizations. This is as true of the GOT as it is of the private sector. Recognizing that there are important reasons for cost-sharing in this element of the project, it is nonetheless important to provide relief for entities that may be short of discretionary travel funds. It may be in the best interests of the project to explore "in-kind" contributions in lieu of travel support. For example, a firm might commit to providing counseling and employment services to future graduates in exchange for short-term training for one or more members of its staff. The GOT might agree to provide staff time to work on one or more of the policy papers mentioned earlier in this report, or they might commit to participating in a workshop for GOT officials on one of the topics mentioned as possibilities in previous sections of this document.

5.4 Recommendations

1. Administration and management arrangements of this component should be re-structured with the Ministry of Plan to incorporate one or more of the following options in order to lessen the management burden on both the Ministry of Plan and USAID. Candidates must be selected and programmed quickly.

- a) USAID and the GOT can maintain the identification and selection process as now structured, but must agree on ways to simplify greatly the bureaucratic, logistical procedures required to get participants into programs in an expeditious manner.
- b) By the end of FY91, identify a complete range of short-term training opportunities available to Tunisians before the PACD. Begin the approval process immediately with a separate authorization for the training activity itself (content, location, etc), to be followed by approval of candidates. A two-step process will enable substitution of candidates as the training date draws near. AMIDEAST and USAID will have to

invest a substantial amount of time to ensure that all appropriate training sources and services are identified.

- c) USAID, together with GOT representatives, can identify several thematic training areas and through a funding mechanism such as an IQC, grant, or personal services contract, design and implement a training program that covers some or all of the priority training needs. This might most efficiently be accomplished through award of a cooperative agreement. USAID would maintain some control, yet the burden of design and implementation would fall on the cooperating institution. Given the important distinction between teaching and training, it is not recommended that the cooperating institution be a university.

Because of the obvious structural and content link between this element of TT and the major thrust of PROS, the agreement might be awarded through PACD of the TT project with the prospect of extension into PROS, contingent upon satisfactory performance of the cooperator.

The advantage of this implementation format is that USAID and the GOT can determine in advance what their training priorities are, can then ask the cooperator to design a strategy for implementing the training according to GOT and USAID general specifications, and then approve those plans at their discretion. A cooperative agreement is a suitable mechanism because the specifics of the scope of work have not been worked out prior to contracting. One of the principal functions of the cooperator is to forge consensus on the design and content for training that is most appropriate to project objectives. In short, USAID influence is maintained, yet the burden for management is shifted to the cooperator. Of most importance is the fact that the design of training becomes a proactive process, not one that responds only to what training opportunities the market offers.

- d) Alternatively, USAID might request proposals (RFPs or RFAs) for designing and implementing a training program to cover the remainder of the TT project. This mode permits USAID to dictate the specifics of training content, but also places the management burden on USAID's shoulders. Once the SOW is contracted however, USAID does not enjoy the flexibility afforded by a cooperative agreement. Because there is only one year remaining until PACD and the total value of the contract is small, the incentive for potential

contractors to invest considerable time and effort in developing an in-depth, creative proposal is proportionately small. Reviewing proposals is also a very time-consuming task. This mechanism has the advantage of being pro-active, but is encumbered by fairly heavy management costs.

2) Immediate attention needs to be given to the problem of meeting the short-term training obligation schedule by PACD. Approximately \$300,000 has been spent; another \$175,000 will be obligated shortly when the Entrepreneurs International agreement is signed. An additional \$500,000 remains in the pipeline for use by September, 1992. A strategy needs to be developed for the use of these funds. Several have been suggested, perhaps the most promising being that outlined in section 1.c directly above.

Another alternative for use of short-term funds is to shift some or all of the remaining resources to long-term training in an effort to meet some of the pipeline expectations of students who began their studies under TT.

3) It is vitally important to the sustainability of local training efforts that a Tunisian firm/s be involved in in-country training efforts as collaborators. If a contract or cooperative agreement is let/awarded for short-term training services, the funding document should require the participation of an appropriate local firm as a sub-cooperator or contractor in carrying out the scope of work. The contractual document might even require specifications of what and how training capacities will be enhanced by the collaboration.

4) In-country training should be used whenever possible and appropriate. If U.S.-based sites are used, efforts should be made to follow-up that training with a seminar or workshop in Tunisia that reinforces lessons learned or that permit participants to reflect upon their experiences in their everyday work situations. Participation in short-term training might be used as a psychological and cost incentive to encourage private sector employers to participate in employment and re-entry seminars for long-term participant returnees. Short-term training is potentially a very powerful incentive for involving both private and public sector employees.

5) The short-term training pipeline affords USAID the opportunity to conduct several of the workshops discussed in earlier sections as activities that might provide important policy leverage on the problems of: a) private vs. social rates of return to investment in higher education; b) the link between labor force demand and human resource development; and c) cost recovery and long-term planning for higher education development.

6.0 SUMMARY

Despite the cumulative weight of the recommendations made throughout this report, the evaluation team repeatedly found evidence that exceptionally well-qualified, Tunisian students were selected for training, that on the whole they performed very well academically, and that the majority returned to Tunisia within a reasonable amount of time of their graduation. The contribution of the TT project to human resource development in Tunisia is without question.

Of critical importance to USAID and the GOT however, is whether the enormous social cost being paid for generally high private returns to higher education training in the U.S. is in the best long-term interests of the country. Failure to examine GOT policies guiding investment in foreign training at this critical juncture of economic development would be a mistake far more costly than the value of a single, foreign assistance project. USAID can and should be a catalyst in helping the GOT achieve a responsible mix of private and public support for higher education and of the provision of services to a broader section of the Tunisian population. Hopefully this report has suggested some initial steps that might be taken to achieve this end.

7.0 EPILOGUE: OBSERVATIONS ON THE DESIGN OF PROS

Two major issues emerged from the Technology Transfer Project that have a direct bearing on the design and implementation of the PROS Project. The first, is a question about the appropriate mode of implementation for long-term training; and there is also concern about whether or not sufficient resources will be available to cover both the GOT expectations for pipeline students as well as the new students proposed to study abroad under PROS sponsorship. Second, the difficulties in implementing short-term training under the TT Project raises considerable doubt about the success of similar activities under PROS unless a new, substantially different, implementation mechanism is employed.

The evaluation team has little evidence to lead it to conclude that the quality of reporting and monitoring by MUST is likely to improve in the next year. Given that situation, USAID is advised to make a clear decision about whether it wishes to use a project or program mode of technical assistance. The advantages and disadvantages have been noted in an earlier section of this paper. In brief, the program mode puts total responsibility for implementation and monitoring in the hands of the government of Tunisia. The GOT is responsible for demonstrating that it has achieved benchmark indicators of progress as determined on an annual basis. Such indicators might include number of student semesters of training paid for by project funds, graduation rates set at an established level, returnee rates at a certain level, and, perhaps most importantly under a program mode, a demonstration that a certain percentage of graduates are employed in ways that are commensurate with the overall objectives of the project. The indicators should be mutually agreed upon by GOT and USAID before project documents are signed, and acceptable reporting procedures and criteria should be clearly and explicitly established.

The estimated cost requirements attached to getting the pipeline students through their degree programs have not yet been accurately estimated by USAID. It is recommended that AID project staff, in conjunction with the GOT and MUST, develop a student-by-student cost projection profile. This process requires that each student currently in the pipeline be traced back to the point at which they began their program of studies. From that point their projected, completion date could be calculated. The time remaining between September, 1991 and their expected completion date should be used as the basis for estimating remaining support costs for that individual student. The cost should be calculated in this way for each of the students in the pipeline. A certain percentage of extensions should be factored into the cost projections as a contingency.

USAID might use 20% as their maximum extension allowance. (That is, 20% of all the students in the pipeline could be expected to be granted an extension: one semester if an M.S. student and up to one year for a Ph.D. student.)

Preliminary USAID estimates of cost run from \$65,000 for HAC and Visas to approximately \$5 million for full tuition support for the pipeline students. The government of Tunisia appears to be making a best-faith effort to reduce the training costs of these students by placing greater restrictions on extensions, and by shifting resources from training programs in other countries such as Germany and France to the U.S. It is clear that funds from USAID's development assistance budget will not be sufficient to cover the training cost of the pipeline students. Several funding options may be open to USAID:

1. USAID could agree to complete the funding of pipeline students through their current degree program. That is, if students are studying for an M.S., their funding would be terminated at the completion of that degree, even if they had expectations to continue on for a Ph.D.
2. The consultant team does not have information concerning the proposed funding level for the long-term component of the PROS project. However, it may be possible, perhaps even desirable, to shift some of the resources reserved for PROS to cover the pipeline students remaining under TT.

Short-Term Training

As indicated earlier in this document, the procedural and logistical problems associated with arranging short-term training are significant barriers yet to be overcome. The evaluation team strongly recommends that USAID and the GOT take the initiative in designing a sequence of short-term training activities that speak directly to the manpower requirements related to project objectives. A portion of project funds might be reserved for interesting, appropriate training opportunities that might be offered by external agencies, but the majority should be carefully targeted for activities that are determined well in advance and that are tailored to GOT and USAID specifications.

A cooperative agreement, whether competed or a sole source contract, would appear to give USAID and the GOT maximum leverage on design and would entail minimum amounts of management responsibilities.

ANNEX A

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