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TERMINAL REPORT

TO DIRECTOR, USAID/AFGHANISTAN

A.I.D.
Reference Center
Room 1656 NS

Submitted by: Robert K. Michael

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Robert K. Michael

Robert K. Michael, Shop Adviser
United States Engineering Team

John E. Nakkaveil, Program Director
United States Engineering Team

My major responsibility has been to elevate the skill of Afghan shop technicians to an acceptable level and to organize the shop facilities of the Faculty of Engineering. My "secondary responsibilities" are not so clearly definable but basically they consisted of aiding the faculty staff in training laboratory technicians, aiding the University in its maintenance problems and supporting other agencies in maintenance of their equipment. As in all AID assistance programs, the idea is to work yourself out of a job, to raise the level of competence of the staff to the point where American advice is no longer necessary.

The function of the engineering shop has undergone a change in scope over the years. In the early stages of our operations our major concern was to install facilities and equipment throughout the building. Our function now is to maintain equipment and to provide support for the staff in terms of teaching aids, research equipment, modification of equipment, etc.

In view of the changing function of the operation we also have a change in the skill level of the technicians in the shop. Our needs now are for more competency in the areas of machine shop, plumbing, sheetmetal, welding, woodworking and electricity than was necessary a few years ago.

Because of the nature of the early operation of the shop the technical ability of the men was low. Over the past 2-1/2 years I have made an effort to improve on this situation. A great deal of progress can be claimed but there remains a great deal of progress to be made.

Significant progress has been made in two specific areas:

1. We have been able to employ a trained machinist after a long battle over salary. This man is paid 2,500 Afs per month which required special permission from the Ministry of Education. We feel that this has set a desirable precedent in terms of adequate pay for technically competent technicians.

2. We have been able to employ a competent Afghan counterpart for my position. As always many problems had to be overcome. Since this man has been employed we have given him intensive training. We feel that, in time, this man will be able to carry on the work that we have started.

A working shop procedure has been established. It is designed to maintain control of materials and yet simple enough to eliminate the "Afghan system". During the past 12 months approximately 300 work orders have been

processed by the shop. Some are for small jobs and some are for large jobs. It is interesting to note that the Afghan staff have placed about two-thirds of the total work orders placed during the past year, while during the preceding year only about 20% of the orders placed originated with the Afghan staff. This is a strong indication that the Afghan staff is beginning to recognize the value of the facilities available to them.

There are many problems that retard growth at present. Some of the problems are given below with my recommendations as to how they might be overcome.

1. Language

It would be desireable to have technicians who can read and write English because all our equipment manuals and technical information is given in English. A partial solution to this problem was solved when my counterpart was hired, but the technicians should still be able to read and write English. A partial solution to this problem would be to (1) operate an English program within the Faculty, or (2) send our technicians to the English Language Center of USIS. It should be noted that we are now sending one shop technician and four lab technicians to the English Language Center.

2. Educational Background

The overall background of trainees is weak. An effort must be made to increase the competency of the technicians in the area of mathematics and drafting. This training must be done here at the Faculty. This work can be done by my counterpart at the Faculty. The lab technicians should be trained in the specific areas they serve.

3. Low Pay

The matter of pay is probably the greatest problem that we face. Our men are paid about 1,300 Afs per month. It can be readily seen that the low pay makes it very difficult to attract AIT graduates or men who have the necessary requirements. There is now a plan before the University to increase the pay of technicians. If we are successful in getting an increase, we would hope to be able to hire English speaking AIT graduates.

4. Low Quality Workmanship

One of the unfortunate by-products of this society is the acceptance of substandard quality workmanship. It is a vital part of our training program to raise the quality. This can be done through careful teaching and constant supervision. This phase of our work is extremely important in view of the value of the equipment used and maintained.

5. Specialists

In the case of the shop technicians there is a feeling among the technicians, especially the AIT graduates, that they are specialists and cannot work outside their specialities. In an operation such as this, it is necessary that we develop men who are good in a given skill area, but are willing and capable of working in all areas. We are making an effort to develop the overall technicians here at the Faculty through example and teaching. Care must be taken that a technician is not "spread too thin" in this development program.

In the case of the lab technicians, they need to be thoroughly familiar with their fields which is not true in most cases. Many of our lab technicians have had no training in their jobs and are simply "on the payroll". Further effort in training is necessary.

6. New Materials

The shop technicians are required to become familiar with a large variety of materials that are new to them. This is true of the technicians as well as the Afghan staff. The materials require new working processes that must be learned. The Afghan has a tendency to shy away from new materials and processes, and one of our responsibilities is to teach him how he can use these items to better perform his job. This problem has been under attack and must remain under attack by my counterpart and replacement.

7. New Tools and Equipment

The statement above also holds true for tools, both hand and machine, and equipment used by the staff of the Faculty. It is our responsibility to teach our technicians to understand the function of this unfamiliar equipment. We also have a responsibility to teach the proper use and maintenance of the tools and machines necessary in the operation of a shop.

8. Maintenance

The Afghan does not understand the importance of maintaining his buildings and the equipment in the buildings. We are forced to develop technicians who will "keep ahead of the breakdowns"; that is, to keep his building and equipment in good operating condition. This requires an effort on the advisor's part to teach the value of maintenance.

As for my recommendation for the future operation of the shop, I feel that my replacement should concentrate his effort in upgrading the level of technical skills required by the shop and lab technicians. He must assist the Afghan counterpart in taking hold of his job.

Continuing pressure should be applied to the Afghan Administrative structure in the area of pay, material procurement, and general assistance. This must be done from the highest level of administration.

We are also concerned about the role that the University Maintenance Department has to play in terms of our specific operation and also in the University program. We have offered to assist them in setting a workable preventive maintenance program, but they have shown little interest. In our specific case, we have found that the University Maintenance Department is extremely uncooperative and unreliable. We are often forced to provide our own maintenance in areas that the University has the direct responsibility. The problem can only be solved by continuous pressure being applied from the highest levels to increase the efficiency of the University Maintenance staff and procedures.