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FINAL REPORT BY THE CONTRACTOR
ALFRED D. CIANO

INDUSTRIAL MANPOWER DEVELOPMENT PROJECT
(TECHNICAL SUPPORT - EDUCATION)
PIO/T # 391-322-2-00023
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EDUCATION/MANPOWER DIVISION
USAID/PAKISTAN

MAY, 1970

FOREWORD

The author makes his Interim Report part and parcel of the Final Report to avoid redundancy.

A thorough recheck and careful reconsideration of statements and conclusions made in the Interim Report indicated that no alteration was necessary.

Alfred D. Ciano
Short-term Consultant

May 28, 1970

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The Original Capital Assistance Paper:

Having developed and submitted my Interim Report, my next responsibility was to assist in the development of the Capital Assistance Paper (C. A. P). This involved researching previous activity on behalf of the Technical Training Center project and careful reconsideration of conclusions reached in my interim report.

The most obvious weakness in previous proposals and specifically in the June 1969 CAP was the lack of advisory staff for the purpose of providing the manpower supportive services essential to providing meaningful employment to TTC graduates.

Previous CAPs called for a five man advisory team having the following professional background of education, training and experience:

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|--------------------------|---|
| Chief of Party (one) | Technical expert in vocational technical school organization and administration with experience in promoting in-plant and job training programs. |
| Technical Experts (four) | Specialists in organization, implementation and conducting of Trades Preparatory type training and teaching methodology.
Specialists in job analysis, plant layout, installation and implementation of training programs and at plant level. |

While I do not minimize the importance of this type of advisory assistance, I had noticed in visits with industry leaders, employment service officials, and TTC principals a complete lack of coordination and inter-change of job information and/or other pertinent manpower services.

I, therefore, suggest that this proposal include advisory staff which would assume responsibility for essential manpower services, such as:

- 1) Coordination of the TTC program with industry-sponsored apprenticeship and in-plant training;
- 2) Production of essential manpower statistics;
- 3) Establishment of occupational standards;
- 4) Organization of job instructor training, trade extension and related apprenticeship training to be conducted in the TTCs as evening programs;
- 5) Coordinate job counselling and recruitment with industry and the employment exchanges;
- 6) Development of a form of job bank; and
- 7) Enlistment of the support and backing of trade union leadership and of industry.

The deployment and structure of the afore-mentioned teams is discussed in detail in the Revised Draft of the Capital Assistance Paper dated May, 1970.

Soon after the first revised draft of the CAP (April, 1970) was completed, a meeting of the Development Loan Committee was called by Mission Director Joseph C. Wheeler, for the purpose of considering this loan request.

Development Loan Committee Meeting:

This meeting was held on May 7, 1970 and was chaired by Mission Director Wheeler. The Committee very carefully probed such things as the employability of TTC graduates, need for the additional centers, whether or not industry had the capacity to assume the responsibility for training its employees through apprenticeship and other on-the-job training, strategy involved in site selections for TTCs, and the financial considerations.

I was impressed with the Mission's careful consideration of this proposal and felt reassured in the assumption that this care and interest was typical of the entire AID operation.

After a lengthy and at times heated discussion the Development Loan Committee agreed to submit this proposal to AID/Washington with a recommendation for approval, subject to certain revisions and conditions.

At this point my role became principally consultative. Mr. Fritz Moennighoff, Loan Officer, AID/Pakistan, undertook the task of redrafting the Capital Assistance Paper in line the recommendations of the Development Loan Committee.

One of the questions which seemed to arise constantly concerned what was being done to assure sufficient qualified instructors for these TTCs. This troubled me to the extent that I decided to investigate further.

I was told about an Instructor-Technical Training Center located in Hyderabad in West Pakistan. I decided to check this out with a visit. This Center, sponsored by the I. L. O., does indeed provide for the training of seventy-five qualified instructors annually. This, in addition to a similar institution in East Pakistan, would account for 150 instructors every year. This fact, and a more realistic salary structure will solve the problem of recruiting and of holding instructors.

I have read both the preliminary and final Morgenstern reports and find myself at a loss to understand how such profound negative conclusions can be made on the basis of figures which Morgenstern himself refers to repeatedly as based on crude estimates, guesstimates, rough estimates, etc.

I find nothing in Mr. Morgenstern's credentials which qualifies him to pass judgment on the relative merits of the TTC program as opposed to an Apprenticeship System.

He displays a complete lack of understanding of what constitutes an apprenticeship program when he suggests "informal apprenticeship training" as taking place in small industry in Pakistan. Inasmuch as the definition of apprenticeship is "a formalized method of training skilled craftsmen through a combination of on-the-job instruction and related classroom training," one wonders whether Morgenstern realizes that he is talking about the kind of casual or incidental training which is just what this program is trying to update and correct.

Morgenstern asks whether or not it is reasonable to expect boys from the top 15 per cent of the school pyramid to work in blue-collar jobs.* If Morgenstern had differentiated between the classes of blue-collar workers, namely skilled, semi-skilled, and factory production workers, the answer would have been self evident. It, of course, reasonable to expect that highly skilled and semi-skilled jobs would be most attractive to this group of young men.

An experienced observer would have classified the type of unemployment among TTC graduates to which he referred. Did he consider the frictionally unemployed in the same context as the kind of unemployment involving people with skill levels too low to meet the requirements of available job opportunities? Was he referring to those unemployed because of the economy's inability to supply job opportunities?

When one attempts to analyze unemployment, it is advisable to consider the cause.

Further it is essential to examine the duration of unemployment. An interesting relationship exists between the supply of manpower and the duration of unemployment.

If it had been possible in the United States in 1968 to reduce the duration of unemployment by one week (5 days) for all workers unemployed during the year, the effective increase in man years of employment would have been 200,000. If such a reduction in

* The Final Morgenstern Report.

unemployment had been achieved for only the frictionally unemployed (i. e. those with only 1 to 4 weeks of unemployment during the year) the addition to the labor supply would have been close to 100,000 man years.

It seems that Morgenstern was not interested in either the cause or the duration of the unemployment which he says exists.

Any feasibility study requires analysis of alternative actions and probable results. All variable must be identified and quantified and integrated in the calculations that are used to measure the effectiveness of the project.

The evaluator must make the best use of the data available to him and avoid collecting ^{only} evidence which supports his preconceptions or fore-ordained conclusions. This type of tunneling contaminates evaluation and the study becomes an exercise of subjective futility.

I am inclined to accept the endorsement of the manpower experts from ILO, United States, Sweden, West Germany, The Netherlands, and the Soviet Union whose recommendations led to the funding of one or more TTC by their respective countries.

I have devoted many years to the promotion of Apprenticeship and Training both in the United States and abroad. I came to Pakistan with a prejudice that would have led me to almost agree with Morgenstern as to the use of Apprenticeship in lieu of the TTCs. However, as any experienced observer would, I concluded that industry presently in Pakistan has neither the capacity nor facility or expertise to effectively provide for its manpower

needs, present and projected with or through Apprenticeship alone. Therefore, I suggest that the horse be put before the cart and that basic skill training be provided in the TTCs and then industry provide the necessary practical trade experience to complete the training.

SUMMARY & CONCLUSIONS:

I recommend the adoption and approval of this proposal as revised, and further suggest prompt implementation.

I am convinced that faced with the present limitations in the capacity and facility of industry to assume the total burden of training for its own manpower requirements; that the suggested correlation of the Technical Training Centers and industry sponsored apprenticeship, supported by appropriate manpower services will bring an orderly, viable system for providing the economy with needed trained manpower.

I am convinced that the Government of Pakistan places this proposal in the highest of its priorities.

I am convinced that the greatest single requirement to the effective industrialization of this country's economy, as envisaged in both the Third and the Fourth Five-Year Plans, is the development of a skilled manpower base.

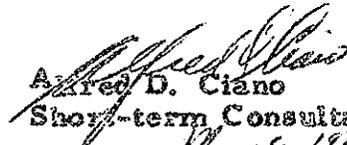
Finally, I am convinced that these goals are reasonable and reachable.

Personal Note:

I take this opportunity to express my sincerest appreciation to all the wonderful people - both American and Pakistani - who accorded me more than my share of hospitality and courtesy.

A special thanks to Mission Director Mr. Joseph C. Wheeler, Dr. Anthony R. Lanza, Mr. Joseph M. Louis, Mr. Fritz Mraznighoff, Mr. Mohammad Wali, Mr. B.H. Zaidi, Mr. Musharraf Ali, Mr. M. Ashraf Malik and so many others, too numerous to mention, who assisted me professionally and personally.

I shall not soon forget this assignment.


Alfred D. Ciano
Short-term Consultant
May 29, 1970

Attachment: Interim Report of Mr. Ciano dated 4/25/70

DEAF
ECP/PA/001/000000
April 25, 1970

INTERIM REPORT OF: ALFRED D. STANO
Temporary Duty Assignment
US AID ---- PAKISTAN

For the purpose of:

...assessing the potential for correlating apprenticeship and on-the-job training with the GOP's plan to mount additional Trades Training programs in nine Trades Training Centers (TTCs) in East and West Pakistan.

...evaluating the TTCs present capacity to supply basically trained tradesmen acceptable for industrial employment and assess the capability of industry to conduct apprenticeship and/or on-the-job training which could be integrated with, supplementary to, or a replacement for TTC preparation.

...reviewing the GOP's newly formulated education proposals and labor policies to determine whether expanded TTC programs are consistent with stated objectives. The period March 23, 1970 until April 18, 1970 has been period of almost constant travel.

Visits and conferences were held in Karachi, Rawalpindi-Islamabad, Lahore, Dacca, Comilla, Chittagong, Kaptai, and Peshawar. Discussions involved appropriate GOP officials in Ministry of Labor including employment exchange officials, and top level officials of the apprenticeship division, employers, management representatives, ILO officials, and representatives of the Ford Foundation.

Contacts were made with representatives of agencies who had sponsored one or more TTCs (Sweden, Germany, and the Netherlands). Visits were made to the UNIDO-sponsored TTC in Karachi, West Pakistan and to the USAID-sponsored TTC in Dacca, East Pakistan.

These contacts and a careful study of the stated objectives of the Third and Fourth Five-Year Plans, the Terminal Report of the University of Hawaii on the Pakistan Skilled Labor Training Report, the New Education Policy of the Government of Pakistan (published in March 1970), and a daily reading of newspaper accounts of speeches made by government planners on subjects relative to this study. An analysis of the number and types of help-wanted ads in newspapers in all sections of the country; plus a dimension of insight, understanding or 'feel' developed over thirty years of involvement in technical skill development contribute to the following commentary:

1. Apprenticeship:

All things being equal, apprenticeship offers the most effective and the most efficient method of developing trade skills known to man. Apprenticeship provides that reservoir of skilled manpower so essential to the industrial growth and economic health of a society.

The strength of apprenticeship is that it provides practical trade experience in the work place under working conditions. An effective apprenticeship program prescribes a schedule of work processes which are designed to afford the apprentice orderly exposure to all elements of his

chosen trade during the term of his apprenticeship. The nature of the employers business and the amount and variety of equipment available in his establishment determine his capacity to conduct a sound apprenticeship program.

There are several reasons why apprenticeship in Pakistan cannot hope to satisfy the national demand for skilled manpower. Primarily, industry is not large scale enough to train in significant numbers. Over 90% of the plants have fewer than 20 workers. Secondly, there are few or no competent teachers available for in-plant training and currently insufficient numbers of literate workers to undertake such training. Finally, tying up equipment for training purposes would reduce production and endanger machinery and equipment, two risks which the typical industrialist can ill-afford.

Assuming that industry had the capacity and the facilities to properly train apprentices, you would still be faced with a tremendous Public Cost Factor. For example in the United States where apprenticeship is universally known where the trade union movement supports it, where you have the most advanced industrialized economy, it is nevertheless necessary for the government to maintain a federal agency responsible for the promotion of apprenticeship. This agency consists of a network of 200 field offices in fifty states and employs upward of 500 people. Added to this there are 32 states out of the fifty which have their own State Apprenticeship Councils and employ additional hundreds of personnel. The combined annual budget should be in the area of thirty million dollars.

Add to the above the additional Public Cost involved in the tax write-off on damaged equipment and inventory, spoiled material, reduced productive capacity of the journeyman while he passes on his skills to the apprentice, and you see a public cost of formidable proportion.

It is reasonable to estimate that for Pakistan to mount an apprenticeship effort at all commensurate with her stated manpower goals she would burden her economy with a Public Cost of great magnitude and with questionable chance of success. Even with the elaborate promotional effort in the United States there are only 750,000 currently registered apprentices in the whole country and half of these are in the building trades.

Having concluded that apprenticeship in and by itself was not going to fill the stated skilled manpower goals of Pakistan, I prepared to assess the potential for correlating apprenticeship and on-the-job training with the GOP's plan to mount additional TTCs in East and West Pakistan.

I inspected many of the country's TTCs, two of which are sponsored by US AID (Karachi in West Pakistan and Dacca in East Pakistan) and others sponsored by other countries or international aid agencies. I interviewed Principals, Instructors, and Trainees and found these characteristics of TTCs to be generally common:

- 1) The emphasis is practical rather than theoretical with five periods daily devoted to shop instructions and three periods to the related theory to complete an eight periods-a-day;

2) The basic purpose of all of these programs is to assist in successful employment in industry and not to prepare the highest academic standards;

3) Job theory classes in Bookment English, mathematics, science and related Drawing all relate to the employment shop industries and

4) Size and number of classes are determined by two **basic factors: the space, and facilities available, and PHILOSOPHY (BRIEF AND) for the program.** This method is applied in teaching related subjects which are understood in a practical manner by those demonstrating skill and capability in developing and teaching new courses.

While a number of valuable theoretical subjects might have been included in the three subjects, most vital to a broad understanding and performance in the trade were selected: shop sciences, shop mathematics, technical english, and blue print reading and drawing.

Evaluation of training programs is continuous and recognition for achievement is given. One essential element of the training program is contact with industry. Up to and frequent field trips to selected factories and other industrial establishments are conducted. Such field trips are conducted during the second year of training and are designed to give the trainees the opportunity to see representative plants of various size and complexity. While in the plant they observe production work and workers and visualize themselves in their future careers. They are given an opportunity to ask questions in similar work situations.

These items are apparently considered an integral part of the training program and as such are carefully planned and executed as any other project or lesson. Each young man who undertakes training in one of the technical training centers is motivated toward one primary goal -- that of attaining a job as a tradesman when he completes his training.

As the basic purpose of this TTC program is to train skilled workers for industry, no academic credit or diploma is given at the end of the training period. Instead, the successful placement of the trainee in industry as a tradesman is the main concern of both the trainee and the centers. I am of the opinion that the Technical Training Center effectively correlated with industry sponsored apprenticeship would produce the kind and quality of skilled manpower so vital to this nation's growth.

The programs of training which I observed in the TTCs are closely related to current requirements and practices in the industries, companies and agencies employing such craftsmen. Thus the trades in which the centers offer instruction are in fact the demand trades of the area. There is a possibility that some of the instruction and training in the TTC might be a little ahead of current industry practice, in a developing economy this can be entirely justifiable.

According to the 1968 report of the advisory council on vocational education, (Vocational Education, the bridge between man and his work) a study of technicians trained under the National Defense Education Act, shows that half of those trained in secondary schools programs and two thirds of those trained in post high school programs found employment in the occupational field for which they were trained. In this light the Pakistan figure of somewhere between 62% and 75% compares most favorably.

The above comparison does not take into consideration these factors: The United States produces wide varieties of consumer goods constantly stimulated by national advertising and of course high incomes. Annual Billion dollar defense effort, an enormous export business all of which tend to draw heavily from the pools of skilled manpower. Pakistan on the other hand is still predominately an agricultural economy which is just beginning the process of modernization in preparation for the future.

In my judgement the employment record of the Technical Training Center graduates is amazing.

It should be understood that this evaluation is based on three assumptions. The first assumption is that there is great need for skilled craftsmen in Pakistan due to the nation's stated commitment to modernization. While it is difficult to quantify this statement and it is likely that even trained craftsmen will, from time to time, be unemployed due to varieties of structural factors. Basically a nation that is modernizing its production systems will require the skills of many craftsmen in a variety of trades. Secondly that industry in Pakistan is capable of employing modern techniques and has so demonstrated. Thirdly, the young men of Pakistan have the inherent talent, given adequate training and opportunity, to become skilled craftsmen.

This report does not concern itself with either the magnitude of the need for skilled manpower in Pakistan's developing economy nor does it attempt to present any evaluation of its cost.

This report has been concerned with the question of whether the Technical Training Center correlated with apprenticeship and on-the-job training would produce the kind and variety of skills demanded by Pakistan's economy. This report has concerned itself with the need for mounting nine additional TTCs in East and West Pakistan. Further this report concerned itself with whether the proposal being studied was in fact consistent with the GOP's newly formulated education proposals and labor policies.

After serious consideration of the available information, I do not hesitate to recommend to US AID/Pakistan favorable consideration of this proposal. I would, however, suggest the following as conditions of approval:

COORDINATION:

A system of coordinating the work of job counselling with industry needs through the formation of Advisory Committees (at least one in each

provincial capital should be established. This committee should be composed of representatives of employer associations such as Association of Commerce, exchange clubs such as Rotary, Lions, etc., employment exchanges, apprenticeship agencies, worker representatives, and TTC personnel at the policy level. This improved coordination would result in greater utilization of Technical Training Institute trainees and would, therefore, eliminate the most obvious weakness in this program.

JOB BANK:

The employment exchanges should maintain records of all completed TTC trainees, to include trade classification, job experience, if any, achievement, mobility, and availability; this list should be made available to the various coordinating committees as information. Further every local employment exchange should have an updated copy of this job bank on hand at all times.

TRADE UNIONS:

Representatives of the skilled trades labor organization can do much to ensure the cooperation of its already employed membership in the work place. Experience has taught us that is difficult to get skilled craftsmen to pass on the secrets of the trade when he fears that a younger man might replace him after he gains experience. The participation of the worker representatives and the unions understanding of the plans objectives can do much to overcome this fear.

NEWS MEDIA.

The news media can be especially helpful in getting public confidence in the program. Responsibility should be placed on ourselves for supplying the media with stories of completions, interviews with satisfied employees, also interviews with successful trainees who might have had interesting job experiences.

I do not attempt in this report to assess dollar value. We are dealing here with a reasonable program dealing with loan funding, in tune with the host country's educational and manpower objectives, and most importantly, a program with reachable goals.

It is not a question of whether this economy can afford this program as it is a question of whether the country can afford to do without it.