

UNCLASSIFIED
CLASSIFICATION

For each address check one ACTION | INFO

5120042 (4)
120^w &
DATE REC'D.

DATE SENT
12/23/69

DISTRIBUTION
ACTION
LA
INFO.

ACONT
OKFB
ITAD
TAB
ITU
OFF
FKP

TO - AID/W TOAID A- 1202

FROM - RIO DE JANEIRO

AID
C & A - 113

SUBJECT -- NON CAPITAL PROJECT PAPER (PROP)
Improvement of Industrial Apprentice Training

REFERENCE --

COUNTRY: BRAZIL

PROJECT: 512-11-610-042.3

SUBMISSION DATE: December 13, 1969

ORIGINAL: X

PROJECT TITLE: Improvement of Industrial Apprentice Training

U.S. OBLIGATION SPAN: FY 1966 through FY 1972

PHYSICAL IMPLEMENTATION SPAN: FY 1966 through FY 1973

GROSS LIFE OF PROJECT FINANCIAL REQUIREMENTS:

U.S. Dollars	\$ 512,000
Local Currency (Trust Funds in US\$)	\$ 156,000
Total	\$ 668,000

72
1966
6

State
com
HEW
BB
TRSY
DOD

PAGE 1 OF 6 PAGES

DRAFTED BY JRSmit/sbm	OFFICE HRO	PHONE NO.	DATE 12/14/69	APPROVED BY: ADPR: IMarrison
--------------------------	---------------	-----------	------------------	---------------------------------

AID AND OTHER CLEARANCES

HRO: WAdanson
FRPC: Riddleston

CONT: GNewton
FRPC: MEFox

UNCLASSIFIED
CLASSIFICATION

A. SUMMARY

1. Justification

Skilled workers are needed by Brazilian industry and by local, state and federal governmental agencies to perform tasks requiring manual skills. Approximately 480,000 new jobs are created in the industrial sector in Brazil annually. However, the National Industrial Apprenticeship Service (SENAI) which supplies the largest percentage of skilled workers for the labor market, falls far short of meeting these needs. During 1968, approximately 100,000 persons were provided skill training through SENAI programs to prepare them for employment in industry. Many industries are forced to employ unskilled workers and subsequently improve their skills through on-the-job training. While on-the-job training is a valuable method, more thorough training can be given to larger numbers when it is combined with formal training. More complete utilization of training facilities, as well as more accurate determination of training required by industry, could increase the number of needed skilled workers produced annually.

2. Project Goals

In the beginning, goals were established as follows:

- (1) To develop a system for collecting and analysing statistics relating to present and future industrial manpower needs.
- (2) To improve and expand the SENAI training program through more effective use of training facilities within industry.
- (3) To upgrade professors, instructors, technicians, supervisors and administrators of SENAI.

By August 1968 the first of these goals was largely fulfilled. Following a review by a joint team of SENAI and USAID/Brazil representatives it was concluded that adequate procedures had been established to determine manpower needs and that technical assistance in that area could be terminated. At that time it was recommended that a program to improve instructional materials be implemented to assist the SENAI program, both within industry and in the schools.

3. Minimum Level of Output

To achieve the goals of this project, SENAI must, by January 1970 (a) train at least one technician from each regional department in methodology of conducting industrial manpower surveys; (b) extend the pilot training-within-industry project to all 21 regional departments; (c) place in training a minimum of 12 SENAI staff members in methods of producing programmed instructional materials.

4. General Approach and Plan of Action

During the life of this project USAID has provided the services of four technicians to assist SENAI develop action programs to improve and expand industrial education training, determine manpower needs and provide on-the-job industrial training. The USAID provides this technical assistance through a PASA with the U.S. Department of Labor. In addition, the project provides for participant training grants for short-term observation and study, as well as one-year training programs in specific technical fields.

The two training-within-industry advisors had the specific task of training SENAI personnel in methods of determining industrial training needs, construction of instructional programs to meet needs, and in training management and supervisory personnel in within-industry techniques of on-the-job training. The pilot project required SENAI to assign 20 staff technicians to this project and expansion to the 21 regional departments will necessitate assignment of an additional 30 technicians to the enlarged project. This training-within-industry portion of the project is labelled Knorr&a.

One advisor was assigned to upgrade the instructional and administrative staff of SENAI and improve utilization of facilities. SENAI assigned one staff member to assist in identifying and making recommendations on revisions needed in administrative training programs and plant utilization. Through development and use of programmed instruction materials, SENAI could enlarge its scope of service, especially through establishment of correspondence study. Utilization of programmed textbooks and other materials should also improve the quality and content of instructional programs currently scheduled in SENAI schools. The current advisor will assist SENAI staff members develop capability for building programmed instruction materials appropriate to SENAI's needs.

D. SETTING

The need for skilled industrial workers is verified by the National Manpower Department of the Ministry of Labor. The Department states that approximately 450,000 new jobs requiring industrial skills are created each year. SENAI, through instructional programs in its own schools and through a system of programs conducted within industry, trains about 100,000 skilled workers for entry into the labor force per year. An additional 100,000 adults are given skill upgrading instruction during a one-year period. A large deficit of skilled workers needed by industry thus occurs annually. As a result, employers are forced to hire unskilled personnel and subsequently train them on-the-job, in some cases through SENAI in-plant training for apprentices. As a consequence, USAID first placed its emphasis on assisting SENAI to determine manpower needs. Emphasis is now on improving the capability of SENAI in training supervisors and managers in industry in methods of conducting their own on-the-job training.

At the termination of this project, SENAI will have professional staff capable of determining industrial manpower needs and of providing industry with technical competence in conducting on-the-job training and in the production of programmed instruction materials.

C. STRATEGY

In early stages of this project the strategy was that the best approach to help Brazil meet its demand for skilled workers was through development of SENAI's capability to determine accurately industrial manpower needs. Later, emphasis was changed to development of instructional programs in schools and within industry to meet those needs.

The National Confederation of Industries is responsible for establishing policy and giving direction to the SENAI program offered in schools and in industry. The leadership is, therefore, responsive to industrial manpower needs and has been cooperative in providing support needed to accomplish project objectives. Some difficulty has been encountered in implementing the training-within-industry phase of the project because some SENAI directors feel that SENAI's efforts should be confined to the instructional program for students within the schools. This concept is changing through the SENAI National Department's emphasis on the importance and need of improving worker skills on the job.

The Industrial Vocational Education project, conducted with the Division of Industrial Education of MEC, has as a principal objective the training of SENAI instructors and administrators, and is therefore closely related to the achievement of the SENAI project goals. SENAI also is used by the Division of Industrial Education as an agency to carry out its Intensive Manpower Training Programs in Industry (PIEMOI).

SENAI schools have cooperated in the development and refinement of technical education aptitude tests being constructed and validated under the Aptitude Testing project.

D. MAINTAINED TARGETS, RESULTS, OUTPUTS

The ultimate objective of this project is to develop in SENAI methods for training new workers and upgrading them on the job in order to meet Brazil's needs for industrial manpower. At its conclusion it is anticipated that SENAI will have one staff member at the national level to coordinate and give technical guidance to the 21 regional departments. Each regional department will have staff members trained in the techniques of conducting industrial manpower needs surveys, analyzing their results, and recommending instructional programs to meet the manpower requirements of industry.

The 21 regional departments will also have staff members capable of assisting ~~the~~ supervisors and managers in industry conduct their own on-the-job training. It is estimated that 225 or more persons will make up this staff at the termination of the project.

E. COURSE OF ACTION

It was determined by SENAI and USAID that the methodology for determining industrial manpower needs should be developed by SENAI's São Paulo Regional Department, which operates 30 schools in the most industrially advanced state in Brazil.

The São Paulo Regional Department assigned 5 administrators and 25 interviewers to assist in development of the methodology, to learn techniques of determining manpower needs and to perform job analysis in order to develop training courses to meet industrial needs. Development of the questionnaire, determination of the tabulating process to be used, training of personnel, adoption of a standard code of occupational titles, conducting industrial interviews, tabulating results, analysing data and writing up a detailed description of the procedure which could be transmitted to other regional SENAI departments, required the full-time effort of the USAID advisor and SENAI personnel from April 1967 until September 1968.

In order to test the methodology in a different industrial complex, a demonstration survey was conducted in the "City of Industry" in Belo Horizonte. During October 1968, 20 SENAI staff members from 9 states went to Belo Horizonte to participate in the survey and learn the methodology. A third manpower survey was conducted in Recife, Pernambuco, in September 1969. The advisor to this phase of the SENAI project completed his assignment in January 1969, and USAID input into this portion of the project was terminated.

Two USAID advisors were assigned to assist SENAI improve and expand its program of training within industry. Two USAID advisors worked with counterparts from the SENAI staff and conducted pilot training programs in various industries, testing and modifying techniques to be used by training management and supervisory personnel in industry to organize and conduct their own on-the-job training within industry. During 1967, pilot programs were conducted in the construction trades in which the skills of 1000 workers were upgraded and 50 supervisors instructed in techniques of on-the-job training. Another pilot project was conducted in the printing and engraving industry. Twenty-five supervisors were given instruction on techniques of on-the-job training. A third pilot project involved training plant managers in identifying training needs of workers and in methodology of establishing worker training programs.

Beginning in April 1967, the SENAI National Department assigned fifteen staff members from the more highly industrialized states to participate in a program to learn the techniques of on-the-job training developed by the USAID advisors and their counterparts. Techniques of identifying training needs, constructing of training programs to meet needs and training of supervisors to conduct worker training was demonstrated in three industrial companies in São Paulo.

Following these demonstration programs in January 1969, the SENAI National Department authorized extension of the training-within-industry program project to all 21 regional departments. This phase of the project is currently in process and will continue until April 1971, by which time approximately 225 SENAI technicians will have been trained in the techniques of instructing supervisory and management personnel in on-the-job training techniques.

It is estimated by the Ministry of Labor that there are about 1.25 million semi-skilled workers in Brazil. The time required to train a worker on the job

depends on numerous factors, including complexity of the job and aptitude of worker. By providing training in intensive 40-hour programs, it might be possible to upgrade skills of about 350,000 workers annually using the estimated 225 SENAI technicians who will be trained during this project.

Future steps to be taken in connection with the project are in the areas of upgrading technicians from SENAI's regional departments to assist industrial organizations in conducting in-plant training programs and training SENAI staff specialists in techniques of preparing teaching materials for programmed instructions.

In the first of these areas, future activities will give attention to SENAI's service to smaller Brazilian industrial organizations which are incapable of employing a training director. Expansion to other SENAI regions of the concept of training industrial plant personnel to do ~~SENAI~~ their own training will provide a multiplier training effect. Planned action in programmed instruction has been revised because of personnel ceiling limitations. The present advisor is providing limited substantial assistance to develop the capability of SENAI staff to build programmed instruction materials that will be used to assist smaller employers upgrade their workers through in-plant training as well as in SENAI's instructional program in schools and in industry.

DELTON

NON-CAPITAL PROJECT FUNDING (Obligations in \$000)

Table 1
Page 1 of 2 pages
COUNTRY: BRAZIL

FROP Date:
Original
Revision No:

Project Title: Improvement of Industrial Apprentice Training
Project Number: 512-11-610-042.3

Fiscal Years	An	L/G	Total	Cont. ^{1/}	Personnel Services			Participants		Commodities		Other Costs	
					ATD	PACA	Cont	U.S. Agen.	Cont	U.S. Agen.	Cont	U.S. Agen.	
Prior Year thru Actual FY 69	AG	G	281	-	4	184	-	66	-	18	-	9	-
Operational FY 70	AG	G	92	-	22	42	-	24	-	2	-	2	-
Budget FY 71	AG	G	109	-	21	47	-	37	-	2	-	2	-
B + 1 FY 72	AG	G	30	-	21	8	-	-	-	-	-	-1	-
D + 2 FY 73													
B + 3 FY 74													
All Subs. Years													
Total Life	AG	G	512	-	68	281	-	127	-	22	-	14	-

^{1/} Memorandum (non-add) column

UNCLASSIFIED

L-62

FOIAID A-

RIO DE JANEIRO

UNCLASSIFIED

Fiscal Years	AID-controlled		Other Costs	Other Honor	Food for Freedom Commodities		
	Local	Currency	Cooperating	Funds	Metric tons	CCC Value	World Market
	U.S. \$	Ctry.	Country	(\$ Equiv.)	(000)	& Freight	Price (\$000)
	\$	\$				(\$ 000)	
Prior thru							
Actual FY 69							53
Operational							
FY 70							42
Budget							
FY 71							36
B + 1							
FY 72							25
B + 2							
FY 73							
B + 3							
FY 74							
All							
Subs. Yrs.							
Total Life							156 ^{1/2}

^{1/2} Trust Fund

UNCLASSIFIED

1962

BOARD A-

RIO DE JANEIRO

UNCLASSIFIED