

DEVELOPMENT AND OPERATION OF A NATIONAL  
INFORMATION/COMMUNICATIONS SYSTEM ON TRAINING  
OPPORTUNITIES AND NEEDS FOR THE DOMINICAN REPUBLIC

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I. Introduction

The Vocational Education Development Program (USAID/DR PID Number 517-027) has as its objective to:

1. Assist existing training institutions (approximately 14 private vocational schools) to develop more effective vocational skills training programs.
2. Assist the poor to participate in vocational training programs in priority skill areas.

Complementary to the loan funds that are suggested for this project, Grant funds are proposed for, among other things, the "...development and operation of a national information/communications system on training opportunities and needs..." This report will suggest how such an Information/Communications System might be most effectively developed and implemented.<sup>1/</sup>

II. Definition of the Problem

The "Fundacion de Credito Educativo - FCE" (Educational Credit Foundation) is the institution in the Dominican Republic which will act as the catalytic agent to achieve the project objectives. Through its program of providing financial assistance to students, the FCE can:

1. selectively orient students to the middle and technical level skills where there is demand in the labor market,
2. use its leverage acquired through its student loan program to:

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<sup>1/</sup> The suggestions presented in this report represent the views of a wide number of Dominican Government officials and representatives of private institutions. The author has sought to synthesize and organize these ideas (see Annex I for the Itinerary of Contacts).

- a) encourage training institutions to improve the efficiency and labor market relatedness of their existing training activities
- b) introduce new skills training programs in occupations where there is demand in the labor market but where training opportunities are not currently available.

Because FCE is a student loan activity and must recuperate its lending program funds from student repayments, it is automatically motivated to assure that students enter occupations where there is demand for their services, that training programs are designed to result in immediate employment, and that training time and costs are kept to a minimum. For that reason, the development and implementation of an information/communications system so that FCE can measure current manpower requirements, both quantitatively and qualitatively, as well as evaluate the efficacy and efficiency of existing programs is of immediate importance.

The need to obtain current estimates of the employment requirements of the labor market in the Dominican Republic, a part of the problem faced by FCE, is also high on the list of priorities of a number of other institutions. The National Planning Office (ONAPLAN), with the assistance of the USAID funded National Employment Policy Project, 517-0121, is implementing a comprehensive employment related information system. Contemplated within this system are periodic establishment reports on occupational requirements for wage and salary workers, surveys of small firms and self-employed workers (nonformal employment sector) and estimates of newly created employment opportunities. The National Statistics Office (ONE), in response to establishing this information system, has plans to modify and intensify its establishment employment reporting program. Finally, both the Secretariates of Education and Labor have recently expressed a similar need to obtain information on the manpower training requirements of the labor market.

The problem, therefore, is to suggest how an Information/Communications System on Training Opportunities and Needs can be developed and implemented in such a manner as to satisfy the particular needs of FCE as well as the broader requirements of the other institutions.

### III. Suggested Solution

It is recommended that the development and operation of a National Information/Communications System on Training Opportunities and Needs be analysed at three different levels:

1. Permanent National Information/Communications System involving all of the public and private institutions with a need for this information.
2. Immediate survey of manpower needs to establish initial priority training areas in selected occupations.
3. Permanent program of labor market studies to be conducted by FCE concentrating in the areas of: 1) followup studies on students in training programs (graduates and non-graduates), and 2) cost-benefit studies in selected occupations.

Each of these areas will be discussed separately.

#### IV. Permanent National Information/Communications System on Training Opportunities and Needs

The GODR capacity to collect and analyse employment related data is currently receiving assistance through a USAID Grant Project (National Employment Policy, 517-0121). Among other objectives, the Project will provide assistance to the National Statistics Office (ONE) to redesign and expand its establishment employment reporting program. More precise information will be collected on occupational and industrial employment. The survey will be expanded to cover the industrial, mining, commerce, construction and public services sectors.

So that this and other information can be analysed and so that manpower policies may be formulated, the National Planning Office (ONAPLAN) is also receiving Project assistance. ONAPLAN will therefore become the central point for the coordination and analysis of employment related information and for its transmittal to labor market related institutions in the Dominican Republic. In addition to the information received from ONE, ONAPLAN will also obtain information on the demands of small firms and of new activities which are still in the development stages. Also, ONAPLAN will receive feedback information from the operations of such labor market related institutions as schools, training programs and placement efforts.

The establishment of such a National Information/Communications System is especially important in the case of reporting training opportunities and needs. In a small national labor market like that of the Dominican Republic, employment opportunities in

specific occupations can change rapidly. The introduction of a new firm may double the demand for personnel in a specific occupation. The application of a new technology may change the occupational composition of existing firms. Opening credit and technical assistance opportunities for small firms may stimulate demand for trained workers in another set of occupations. In order for education and training institutions to respond to these rapidly changing labor market needs, a continuous reporting system is required which links the various sources of information on training needs to the agencies responsible for developing the required manpower.

ONAPLAN is creating such a system. Chart I indicates how the system will operate. Efforts are currently being made to establish the permanent sources of employment information. Also, ONAPLAN personnel are receiving assistance in the analysis of employment related information. Partial estimates on training opportunities and needs for specific occupations should be available from ONAPLAN by the end of 1980. Comprehensive information with adjustments for feedback from labor market related institutions is anticipated by the end of 1981.

The Fundacion de Credito Educativo (FCE) will be an active participant in the National Information/Communications System. FCE will receive information on training opportunities and needs so as to orient its student loan program. It will provide feedback information to the System on the number of students receiving assistance by occupational specialty, their anticipated entrance date into the labor force and their experience in the labor force after completing their training.

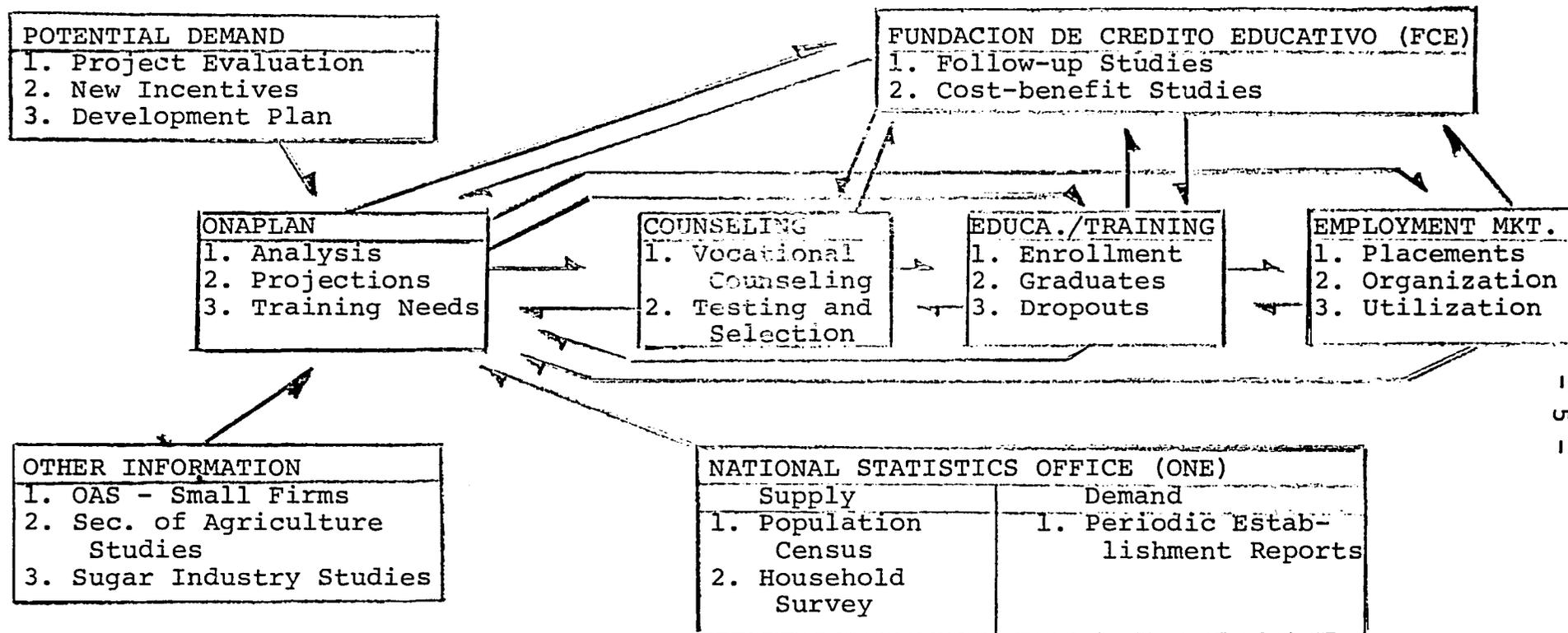
#### V. Immediate Survey of Manpower Needs

The National Information/Communications System on Training Opportunities and Needs will only begin to furnish partial information on manpower needs by the end of 1980. FCE, however, will require immediate information on specific occupational requirements in the technical and middle levels occupations so that it can begin its loan program as soon as funds are available. It is recommended, therefore, that an interim survey of the labor market be conducted in order to establish initial priority training areas.

The kind of occupational information that will be required by FCE comes from three sources: 1) existing private and public establishments in the "modern" wage and salary sector, 2) existing small firms and self-employed workers in the "nonformal" sector who are

CHART I: NATIONAL INFORMATION/COMMUNICATIONS SYSTEM ON TRAINING OPPORTUNITIES AND NEEDS FOR THE DOMINICAN REPUBLIC

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1/ This is a preliminary approximation of how the Information/Communications System will operate. Subsequent minor changes, however, will be made.

in conditions to improve their productivity/sufficiently through training programs so as to repay loans, and 3) plans, projects and forecasts which will provide information on newly created employment opportunities (see Chart II). A comprehensive sample survey of all of the above sources would be a very large undertaking and would be far in excess of the dimensions of an interim labor market survey for establishing initial priority training areas. In addition, the prospect of receiving data from the National Information/Communications System reduces the importance of obtaining comprehensive information.

What is suggested is an immediate survey of existing establishments in the private and quasi-private "modern" sector giving special importance to those occupational areas where FCE can anticipate the most immediate possibility of initiating loan activities. Because only a limited portion of the potential sources of labor market information would be included in this initial survey, the application of a rigorous sampling technique would seem uncalled for. It is, therefore, suggested that the survey be applied in a limited number of establishments that would allow a representative series of observations to be made regarding these selected occupations. A detailed methodology follows for conducting such a survey.

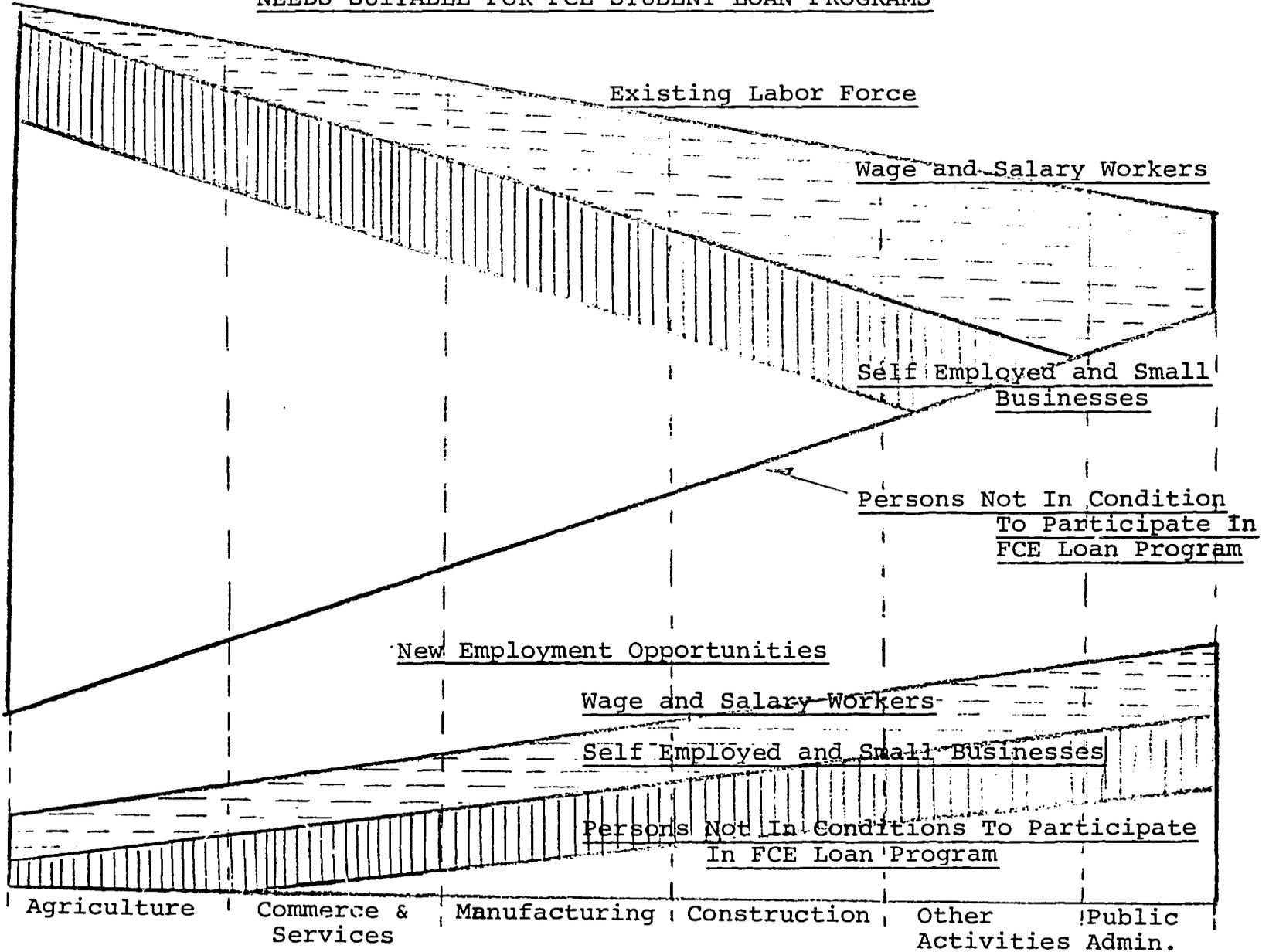
#### A. Selection of Occupational Areas

In order to maintain an interim survey of the labor market as simple as possible, it will be necessary to specify which occupational areas are of immediate importance. This will depend on FCE defining those areas where it anticipates an immediate potential for making loans. This should be dependent on two factors: 1) the existence of or the short-run possibility of developing training facilities, and 2) the orientation of informed opinion to those occupational areas where an immediate employment potential exists.

FCE already has prepared a list of the training potential of the fourteen target training institutions mentioned in the PID. The existence of these facilities together with their trained instructors will permit the immediate development of programs and consequent generation of loans. Care must be taken to both identify priority demand areas as well as those occupations where the market has been satisfied or saturated. The existing facilities mainly focus on five areas:

1. Clerical occupations related to accounting, bookkeeping and secretarial functions

CHART II: POTENTIAL SOURCES OF INFORMATION ON TRAINING OPPORTUNITIES AND NEEDS SUITABLE FOR FCE STUDENT LOAN PROGRAMS



2. Machine tool and mechanical occupations
3. Construction related occupations
4. Agriculture related occupations at the technical level
5. Primary teachers

The selection of occupations having the greatest potential demand requires the subjective evaluation by persons familiar with the labor market. In this case the collaboration of the National Businessmen's Council (CNHE) could be very valuable. CNHE represents a variety of private sector associations and councils whose members are intimately involved in different economic sectors. Their orientation would be particularly valuable keeping in mind, of course, the kinds of occupations applicable to FCE financing and the possibility of establishing appropriate training facilities in the short-run. FCE, because of its attachment to the private sector, has a close working relationship to CNHE. The potential priority occupations to be suggested by CNHE should be kept short to insure that the immediate survey be kept as limited as possible. Additional occupations could be subsequently investigated as necessary.

#### B. Selection of Survey Establishments

The selection of the survey establishments can also be left to CNHE. With their close proximity to the private sector, they can suggest which of their affiliated private sector organizations would be most appropriate to provide recommendations. Using the suggested occupational listing discussed above, the selection of establishments will depend on the possibility of obtaining representative labor market experiences from a group of employers who deal directly with each occupation. The leaders of the CNHE affiliates will be able to provide a lot of useful background information. Specific information must be collected, however, from individual establishments.

From the occupations which have been suggested, it seems that the following economic would be of potential interest:

1. Organized agricultural establishments
2. Agro-industry and food products
3. Metal trades
4. Machine manufacture and repair
5. Electrical goods manufacturing and repair (including re Fridgeration and air conditioning)
6. Graphic arts and printing
7. Free Zone manufacturing complexes
8. Transportation and communications activities

9. Commercial distributors of mechanical and electrical goods (including automobiles)
10. Construction
11. Tourist related activities (including hotels and restaurants)
12. Semi-autonomous government owned industrial activities

A properly selected list of 100 to 200 establishments could provide adequate information for identifying priority occupations. Because of the inapplicability of rigorous sampling procedures, quantitative estimates of the universe will not be the objective of the survey. Instead, the goal will be to identify which occupations are in short supply in the labor market. Again, the survey can be applied to other economic sectors in the future if there is need for information on a wider variety of occupations.

### C. Survey Questionnaire

The survey questionnaire must be kept as simple as possible to both encourage employer response as well as facilitate its enumeration and tabulation. The primary objective of the survey is to identify priority occupations for training. The questionnaire must, therefore, concentrate on adequately defining occupations at a sufficient level of detail to permit training programs to be developed. For each occupation, a series of questions will be applied to differentiate shortage occupations where there is a demand for trained workers and those occupations where market requirements have been satisfied.

The most difficult part of the questionnaire will be the identification of specific occupations. A standard occupational nomenclature does not exist in the Dominican Republic. The same occupation may be referred to by various names in different establishments. In addition, little attention is given to skill levels within an occupational family. A worker who does only a few tasks within an occupation is often referred to by the same title as a highly skilled worker who performs a wide range of tasks although the training implications are quite different. To permit a standardized nomenclature at a significant level of disaggregation to be applied, an occupational classification system must be used. It is recommended that the International Standard Classification of Occupations of the ILO be used.

The questionnaire should be divided into three sections. The first will be the information required to identify the firm, the economic and geographic sectors, the persons responsible for providing and

coding the information, and the size of the firm. This information, used for survey control and for tabulation purposes, will usually be the face sheet of the questionnaire (see Sample Questionnaire).

The second part of the questionnaire is one continuous line item for each specific occupation. This includes the occupational title and a brief description to permit a verification against the International Classification. The title should be followed by a series of control questions to be certain that supervisors, journeymen, assistants, maintenance levels and entry levels have been appropriately separated. An occupational code will then be applied for tabulation purposes. Questions for each occupation will include personal characteristics, indicators of the labor market status, the interest of the employer in training programs and a relative indicator of the salary level (see Sample Questionnaire).

The final section of the questionnaire permits some direct questions to be asked of employers. This should include his observations on shortage and surplus occupations, his interest in and observations regarding training programs and his suggestions on how FCE might provide maximum assistance.

Because of the complexity of identifying each specific occupation in the establishment, trained enumerators will be required to obtain the information. If, however, any of the CNHE affiliated members would prefer to administer the questionnaire indirectly, a partially developed pre-coded list of occupations could be filled in to assist the respondent. In this case, the occupational title and a one phrase description of the most common tasks will be provided for those occupations common to the economic sector. Blank lines will be left so that additional occupations can be added by the respondent. In any case, trained enumerators will be needed to assist respondents and to code the occupations.

#### D. Tabulation of Survey Results

Because there are no sample adjustments, the tabulation of the results will be very simple. An overall tabulation of survey results will be, of course, necessary to provide information on all of the occupations that are identified in the survey. Occupational information is recorded on a line item basis.

The primary objective of the survey is to identify priority occupations. This will be done by using the indicators that appear in Section II of the questionnaire:

SAMPLE QUESTIONNAIRE

SECTION I

SURVEY TITLE

Responsible Organization(s)

- 1. Establishment Number
- 2. Enumerator Number
- 3. Geographic Area
- 4. Firm Size (Total Employment)


Name of Firm \_\_\_\_\_

Street Address \_\_\_\_\_

Postal Address \_\_\_\_\_

Name of Person Responsible for Information

\_\_\_\_\_

Position in Firm \_\_\_\_\_ Telephone \_\_\_\_\_

Principal Activity, Product or Service Performed by the Firm (Please describe what activities take place)

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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NOTE: All information is strictly confidential and should not be revealed to any other organization. For assistance in providing this information, please call \_\_\_\_\_, \_\_\_\_\_ Organization, Telephone Number.





SECTION III (SAMPLE QUESTIONNAIRE)

1. What occupations do you think are difficult to locate in the labor market and where training would be required? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What occupations are in surplus in the Labor Market? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Are you satisfied with the quality of graduates from vocational schools(?) Yes \_\_\_ No \_\_\_. What suggestions have you for improvements? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Are you satisfied with the quality of your own employees? Yes \_\_\_ No \_\_\_. Would you be interested in financing from FCE to improve their skill levels? \_\_\_\_\_

\_\_\_\_\_

5. Do you prefer training your own workers or to use graduates of vocational schools? \_\_\_\_\_

Do you provide training for women as well as men? \_\_\_\_\_ What kind \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

1. Number Needing Additional Training
2. Current Vacancies
3. Expansion Needs
4. Difficulty in Finding Workers
5. Interest in Training Programs
6. Additional Persons Hired

For these indicators, it will be useful to prepare separate tables for these indicators listing occupations in descending rank order. Usually, a pronounced tendency will occur among the ranking of occupations on each table indicating with clarity the priority occupations.

Special attention must be given to the tabulation of salary data. Because this is an estimate of the average, it will be necessary to multiply the number of observations by the average salary. This total will again be divided by the number of observations to obtain an average of the reported averages.

A final item may be added to Section II of the questionnaire regarding minimum entry requirements for each occupation. The respondent should be given a precoded list of alternatives related to minimum educational levels and minimum previous experience requirements.

#### VI. Permanent Program of Labor Market Studies for FCE

The interim survey of training opportunities and needs will provide FCE with immediate information for initiating its loan activities. If additional information on employment requirements is needed before the National Information/Communications System on Training Opportunities and Needs is operational, subsequent applications of the interim survey may be made.

The grant portion of the Vocational Education Development Program will permit FCE to strengthen its technical capabilities in a number of areas; among them, the area of labor market information. There are two kinds of labor market studies which seem to be particularly appropriate for the needs of FCE:

1. Follow-up studies of both graduates and dropouts of training institutions
2. Cost-benefit studies for estimating the return of the investments in specific occupational training programs.

A systematic program of follow-up studies on students who have been enrolled in vocational programs will provide a great deal of useful information for FCE for evaluating its student loan program. First, it will permit the selection criteria that are used for screening students to be evaluated against performance in training programs, in the labor force and in loan repayments. Second, the quality of training can be evaluated against actual labor force requirements. Third, assurances can be obtained that the labor market is in condition to employ persons in the selected skill areas.

A follow-up studies program is, therefore, a control device permitting FCE to test its assumptions concerning training needs and the quality of the training programs on the basis of actual performance. If it is found that the selection procedures are not identifying the right kinds of students, that training programs are not satisfactory for employers or that employers no longer require new workers in the occupation, FCE can modify its programs.

Cost-benefit studies will permit FCE to make sound financial assessments of potential investments in selected occupations. Where a considerable sum of money is being considered either to finance a large number of students in a specific skill area or to set up permanent facilities for training in a specific occupation, a cost-benefit analysis will provide important information. Detailed estimates will be made of the actual and imputed cost of providing training in the specific areas. A similar estimate will be made of what the individual can anticipate as a net increment in income as a result of this training. A discount rate can then be determined to estimate the rate of return on the training investment. Comparing estimated rates of returns will permit FCE to identify those occupations where the loan potential is greatest. Certainly, FCE would wish to avoid any occupations where interest costs exceed estimated rates of return.

Training outside of the Dominican Republic is suggested for at least one FCE official in these two methodologies. With this capacity, FCE can orient follow-up and cost-benefit studies on an "As Needed" basis utilizing outside personnel to carry out the field work.

ITINERARY OF MEETINGS IN THE  
DOMINICAN REPUBLIC

May 31 - June 15, 1979

Allan Broehl

May 31, Thursday

- 4:30 p.m. - Arrival in Santo Domingo
- 8:00 p.m. - Arrival at the Hotel La Romana,  
La Romana, Dominican Republic
- 9:00 p.m. - Meeting with Dr. Frank de Moya, Director  
Employment Planning Unit, ONAPLAN

June 1, Friday

- 12:00 noon - Meeting with Dr. Cam Wickham, Economist,  
USAID Mission, Santo Domingo
- 2:30 p.m.-  
7:30 p.m. - Participation in Employment Policy Seminar

June 2, Saturday

- 9:00 a.m.-  
7:30 p.m. - Participation in Employment Policy Seminar

June 3, Sunday

- 11:00 a.m. - Arrival in Santo Domingo

June 4, Monday

- 8:00 a.m. - Meeting with Dr. Cam Wickham, Mission Economist  
and Ms. Juanita Alevedo and Mr. William  
Deuterman, U.S. Department of Labor
- 10:30 a.m. - Meeting with Dr. Al Ravelli, Education Officer  
AID Mission
- 11:00 a.m. - Meeting with Mr. Irving Levy, Assistant  
Mission Director
- 11:30 a.m. - Meeting with Mr. John Clary, Mission Program  
Officer
- 2:30 p.m. - Meeting with the Fundacion de Credito  
Educativo (FCE)
  1. Dr. Al Ravelli
  2. Mr. Joaquin Ricardo
  3. Mr. Ramon Baez
  4. Mr. Troadio de los Santos

June 5, Tuesday

- 9:30 a.m. - Meeting with the Fundacion de Credito Educativo (FCE)
  1. Dr. Jose Andres Aybar Sanchez
  2. Mr. Joaquin Ricardo
  3. Mr. Tomas Bobadilla
  4. Dr. Al Ravelli
  5. Mr. Troadio de los Santos
- 11:30 a.m. - Meeting with the Directors of Planning and Budget, and Technical and Vocational Education, Secretariate of Education
  1. Mr. Melaneo Hernandez
  2. Mr. Moronta
  3. Dr. Al Ravelli
- 2:30 p.m. - Meeting with the Fundacion de Credito Educativo (FCE)
  1. Mr. Tomas Bobadilla
  2. Mr. Troadio de los Santos

June 7, Thursday

- 8:30 a.m. - Meeting with the Fundacion de Credito Educativo (FCE)
  1. Mr. Troadio de los Santos
- 11:00 a.m. - Meeting with National Planning Office Employment Project (ONAPLAN)
  1. Dr. Frank de Moya
  2. Dr. Cam Wickham
- 3:00 a.m. - Meeting with Assistant Political Officer (Labor Reporting Officer); U.S. Embassy
  1. Mr. Louis Licht
  2. Dr. Cam Wickham
  3. Mr. William Deuterman
  4. Ms. Juanita Azevedo

June 8, Friday

- 8:30 a.m. - Meeting with Accion Pro-Educacion y Cultura (APEC)
  1. Mrs. Jacqueline M. de Jesus
  2. Dr. Al Ravelli
- 2:00 p.m. - Meeting with Mr. Frank Zorilla, Clapp and Mayne Advisor to ONAPLAN
- 5:00 p.m. - Meeting with Ms. Juanita Azevedo and Mr. William Deutermann, U.S. Department of Labor and Mr. Hugh Allen, Consultant on Small Business Development

June 10, Sunday

- 12:30 p.m. - Meeting with Ms. Jacqueline M. de Jesus, APEC, and Mr. Hector Garcia, AID Consultant on Adult Education

June 11, Monday

- 10:00 a.m. - Meeting with Mr. Frank Zorilla and Mr. Luis Bellina, Clapp and Mayne Consultants to ONAPLAN
- 11:00 a.m. - Meeting with ONAPLAN Technical Group on Employment
  - 1. Dr. Al Ravelli, USAID
  - 2. Dr. Cam Wickham, USAID
  - 3. Dr. Frank de Moya, ONAPLAN
  - 4. Mr. Frank Zorilla, Clapp and Mayne
  - 5. Mr. Luis Bellina, Clapp and Mayne
- 2:30 p.m. - Meeting with Accion Pro Educacion y Cultura (APEC)
  - 1. Ms. Jacqueline M. de Jesus
  - 2. Dr. Al Ravelli, USAID
  - 3. Dr. Ardwin Dolio, AID Consultant
- 4:00 p.m. - Meeting with the Fundacion de Credito Educativo (FCE)
  - 1. Dr. Jose Andes Aybar Sanchez
  - 2. Mr. Tomas Bobadilla
  - 3. Mr. Troadio de los Santos

June 12, 1979

- 2:00 p.m. - Meeting with the President of the Board of Directors, Fundacion de Credito Educativo (FCE)
  - 1. Dr. Luis Heredia Bonetti, President, Board of Directors
  - 2. Dr. Al Ravelli, USAID
  - 3. Ms. Jacqueline M. de Jesus, APEC
  - 4. Dr. Ardwin Dolio, USAID Consultant
  - 5. Mr. Hector Garcia, USAID Consultant

June 13, Wednesday

- 10:30 a.m. - Meeting with the National Businessmen's Council (CNHE)
  - 1. Dr. Roberto Martinez, Executive Director, CNHE
  - 2. Ms. Jacqueline M. de Jesus, APEC
  - 3. Mr. Ramon Baez, IDEI
  - 4. Mr. Hector Garcia, USAID Consultant

- 12:00 p.m. - Meeting with the National Planning Office (ONAPLAN)
1. Dr. Frank de Moya, ONAPLAN
  2. Mr. Frank Zorilla, Clapp and Mayne
  3. Mr. Luis Bellina, Clapp and Mayne
  4. Mr. Hector Garcia, USAID Consultant

June 14, Thursday

- 9:30 a.m. - Meeting with Mr. Hector Garcia, AID Consultant  
10:30 a.m. - Meeting with Mr. Rafael Lozano, Lozano Associates

June 15, Friday

- 11:00 a.m. - Meeting with Training Opportunities and Needs Survey Technical Group
1. Ms. Jacqueline M. de Jesus, APEC
  2. Mr. Ramon Baez, IDEI
  3. Mr. Manuel Bonilla, Secretariate of Education
  4. Mr. Isidro Baez, Secretariate of Labor
  5. Mr. Hector Garcia, USAID Consultant
- 12:30 p.m. - Meeting with Mr. Frank de Moya and Mr. Frank Zorilla, ONAPLAN  
2:00 p.m. - Departure for Airport