

GENERAL
CDCC/CCST/82/1
February 1982
ORIGINAL: ENGLISH

ECONOMIC COMMISSION FOR LATIN AMERICA
Subregional Office for the Caribbean
CARIBBEAN DEVELOPMENT AND CO-OPERATION COMMITTEE
CARIBBEAN COUNCIL FOR SCIENCE AND TECHNOLOGY



SCIENTIFIC AND TECHNOLOGICAL SURVEY IN THE
COUNTRY DURING 1981

INTERVIEWERS MANUAL



UNITED NATIONS

ECONOMIC COMMISSION FOR LATIN AMERICA Office for the Caribbean

77

4

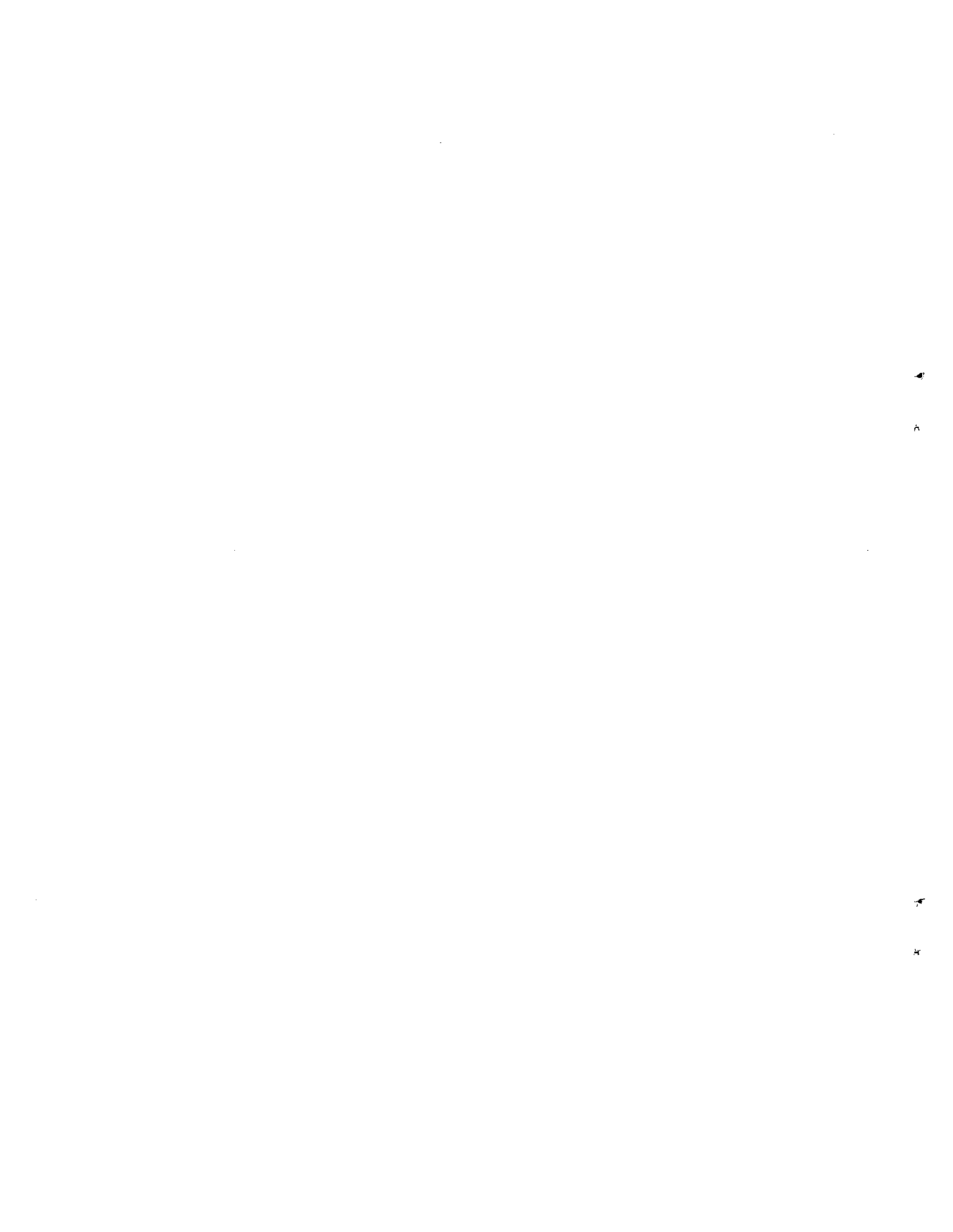
77

4

SCIENTIFIC AND TECHNOLOGICAL SURVEY IN THE
COUNTRY DURING 1981

INTERVIEWERS MANUAL

FEBRUARY 1982



SECTION 1: INSTITUTION

The questions contained in the interview forms for Institutions are listed below, followed by a definition of each concept and instructions regarding the manner in which the response should be recorded. The questions are listed in the order in which they appear in the questionnaire, and are numbered accordingly. The instructions should be followed as closely as possible, and the questionnaire contents reviewed before the interview is begun. Questions about the subject matter should be addressed to the Supervisor.

1. Identification and Location

1.1 What was the official title of this Institution at the end of 1981?

(Specify: Institute, Department, Section, Division, Unit, Group, Commission, etc.)

Write down the name under which the Institution in question received and mailed official or formal correspondence at the end of 1981. Before the name, specify the official title (Institute, Department, etc.)

1.2 What is the name of the Institution to which this office was administratively subordinate at the end of 1981?

Record the official name of the Institution which was, hierarchically, directly above the one being interviewed at the end of 1981, according to the administrative structure existent during that year. In the case that none existed, write NONE.

1.3 When did the Institution begin its operations?

Record, in the designated space, the month and year in which the Institution in question began its operations. In the case that the Institution changed its title or hierarchical rank during the reference period, record the date of establishment

before the change, and in the space provided for observations write down the date of the change and the original title.

- 1.4 What was the Institution's complete address at the end of 1981?

Describe the Institution's location at that time, according to the specifications provided in the designated space (street number, city, town, district, province and zone). The name of the street and the number should be verified personally, whenever possible. When the office is located in a rural area, underline the work District and write down the name in the appropriate space. Mark (+) rural zone when district is underlined; otherwise mark (+) urban zone.

2. Objectives and Functions

- 2.1 Are there any written objectives for this Institution?

When the answer is affirmative, mark (+) Yes, request a copy of the written objectives and attach it to the form. If the answer is negative, mark (+) No.

- 2.2 Are there any unwritten objectives of this Institution?

The term objective is defined as the goal or purpose which justifies the existence of the Institution. This question must be asked even when a copy of the written objectives is obtained. The objectives should be listed in the space provided, in order of increasing importance as stated by the Interviewee. Number the objectives as each is described, and underline those contained in the Institution's statutes. If none are contained in the stat-

utes, write (NONE) at the end of the description. If the designated space is insufficient, continue on an attached page which has been duly numbered.

- 2.3 What are the duties corresponding to this Institution?

"Duty" is defined as the set of activities required for achievement of given objectives or purposes. Apply the instructions provided for point 2.2, replacing "duty" for "objective".

- 2.4 Which economic, social, etc., sectors will benefit from the activities carried out by this Institution?

Write down the name of the economic, social, etc., sector which will directly benefit from the activities carried out by the office in question. Do not limit the answer to the designated space as additional sheets may be attached, with the appropriate references and numeration. Write down the response in the greatest detail possible, as this will improve subsequent classification results.

3. Research Policies

- 3.1 Does the Institution possess written policies for establishing priority areas in which research should be carried out or sponsored?

If the answer is affirmative, mark (+) Yes and request a copy of the written policy statement. If the answer is negative, mark (+) No.

- 3.2 Is it possible for a researcher to carry out research activities without prior approval or authorization from the Board of Directors?

Mark only (+) for the appropriate response. Only one answer may be marked.

3.3 What percentage of the Institution's working hours was spent on each of the following activities in 1981?

4. Basic Services

4.1 This section is designed to determine the nature of the basic services available to the Institution in question. The contents of each column in the chart prepared for this purpose is described below:

Columns

1. Type of Service: See the description of each category (Col. 1), provided below.
2. Property of the Institution: Mark (+) in this column for those services which are the exclusive property of the Institution (not of a higher level). When the agency has no exclusive property holdings, mark (-) in this column.
3. Access to Services: Mark (+) in this column for the services listed in column 2 which belong to a higher-level office or one of similar rank, and which are available for use by the Institution in question. These may be considered accessible only when they are located in the same building or complex as the Institution or one of its branch offices. When services are not available in this manner, mark (-) in this column.

Categories (Col. 1)

1. Library: Office of locale where books are stored and classified, for purposes of reading within the locale or for lending to the Institution's personnel. This is a passive type of service.
2. Documentation and Information Centre: This service

provides up-to-date information (reproduction, publications, etc.) on scientific research subjects relevant to the particular Institution's objectives. This information is geared specifically toward the needs of the Institution's staff, and may or may not be located in the library and function as part of it. This service differs from that of a library in that the Centre has the capability to provide bibliographic references and summaries of the material available under each subject heading. Thus, it is considered an active service. When the Centre is a part of the library, mark (+) in the two corresponding columns.

3. Printing Office: This concerns the availability of machinery and equipment, regardless of the service's limitations.
4. Computer Service: Determines the availability of computer equipment to the Institution in question. As is often the case, this equipment may be rented; nonetheless, for purposes of the survey it is considered to be part of the Institution's property. Availability of this service should be recorded in Columns 3 and 4 accordingly, regardless of capacity for meeting the Institution's needs in this field, or infrequent use. Mark (-) in the designated columns when the Institution does not have any of the aforementioned equipment in its possession, nor has it rented equipment or access to it by another means.
5. Accounting Services: This question should be given special attention, since the response will be utilized in a later interview. The question attempts to determine whether the Institution keeps continuous records of income and expenditure, that is to say, account books. This service is especially important with respect to 1981. When the service is provided from outside of the Institution, private firms or on a contract basis, mark (+) indicating property and access to the service.

6. Maintenance Service: This concerns the availability of the infrastructure necessary for maintenance of equipment, instruments and other implements in optimal working conditions. Mark (+) or (-) as may be the case, in the designated columns.
 7. Repair Service: Mark (+) or (-), as may be the case, for possession or access to a workshop or service for repairs on equipment and working instruments. This may be incorporated to the maintenance service, in a single unit. If this is the case, mark (+) in categories 6 and 7.
 8. Transportation Service: As in the above-mentioned categories this concerns the availability of a type of service, in this case vehicles for transporting staff members during the course of their activities. When this service consists only of transportation of personnel to and from a given point to the office in the morning and evening, consider it non-existent. The service is only recorded as such (mark +) when vehicles are assigned to staff members so that they may carry out their activities on an individual basis, and the vehicles are owned and serviced by the Institution.
 9. Laboratories: This category is broken down into various classes. The question should be posed for each class, as well as for the existence of other types not mentioned in the list, which are to be recorded on the blank lines. As in all other cases, mark (+) or (-) as the case may be.
 10. Other services of importance to the research being carried out (Specify).
5. Income during 1981
- The table prepared for recording the year's income begins on page 4 and ends on page 5 of the questionnaire. The income recorded in this segment is that which was made effective during 1981, whether this is

received directly by the Institution or through the Institution to which it is hierarchically subordinate. The income is classified according to whether it is received in cash or in kind, and is thus classified in different columns. Remember to write down the values in US\$ and mark (-) in those columns when there is no value to be registered. Also observe that income must be classified according to the criteria listed in column 1 of the table, which define the item and source of each entry.

Each of the classificatory income categories is defined below, by columns and categories:

Columns

1. Item: See the numbered categories listed below, under "categories" (Col. 1) which follow the questionnaire's sequence.
2. Cash income, total: For each category, write down the total amount of income received (cash, cheque, bank transfer) during 1981. Record only the amount received by the Institution for its own use, and do not include amounts which were not made available to the Institution during the reference period. Remember to record the amounts in US\$ and mark (-) where there is no value to be registered.
3. Other: This refers to the estimated value of goods and/or services received by the Institution during 1981. This includes the value of goods and services donated and on loan, regardless of whether the goods were returned during the reference period.
4. Income, total: This is the sum of columns 2 and 3.

Categories (Col. 1) Item:

1. Core Budget: This category includes income provided by the Institution to which the Institution in question is subordinate, and corresponds to the year 1981. When a loan, contract, donation, etc., is negotiated for the exclusive use of the Institution in question, do not include that income in this category, even when it is included in the head Institution's annual budget.

2. Loans obtained: All income derived from loans is included in this category regardless of when the loan was obtained, as long as the income was received during 1981. The blank lines under this category should be used to record the name of the loan office, for each one of the loans received during 1981. In the value column, record the amount received for each loan. Make certain that this amount was not included in 1.
3. Amount received from research contracts: This category is used to record all income received by the Institution for research projects carried out at the request of other agencies. In this and the following categories, the amount should be detailed by the source of the income, as defined under the title "categories" (Col. 1), source. Make certain that this income was not included in 1.
4. Amount received from the provision of professional and technical services: This category corresponds to the income received from services rendered by the Institution in question, regardless of whether this is a regular service or only a one-time agreement. Make certain that this value is not included in 1.
5. Grants and Donations: This category includes the income received from gifts, donations, or transfer of funds during 1981, directly by the Institution or through its head Institution (if applicable) for the exclusive use of the Institution in question. Make certain that this value is not included in 1.
6. Branch Offices

This question is designed to determine how many and which of the Institution's branch offices carry out scientific and/or technological research on a continuous basis. This includes the offices which participate in research of this type even when it is not the exclusive activity of the

office. Numbering of the branch offices is simply consecutive, and does not imply hierarchical subordination. The three following columns are provided for recording the name of the branch office, its main activity, and the name of the person in charge, respectively. Request a copy of the Institution's organizational diagram and attach it to the questionnaire. When no diagram is available (it has never existed), make a note of this at the bottom of the table.

7. Research Projects

This question begins on page 7, where columns 1, 2 and 3 are found. Column 1 is for the numerical identification of the project. Column 4 is for continuation of the question and is found on page 11. Turn to page 11 and continue the question. Remember to fill in Column 4 immediately for a continuation of the numerical identification of the project. (It will be the same as that in Column 1). The continuation of the column numbers corresponding to this page is found on page 15, where Column 7 must be filled in immediately for a continuation of the numerical identification. (It will be the same as that in Columns 1 and 4).

If there are more projects than can be completed on page 7, turn to page 8, and follow the same procedure as before, i.e. continue to Column 4 on page 12, and continue to Column 7 on page 16. This also holds for pages 9 and 10, the instructions for the continuation of which are found on the relevant pages.

In this section information is collected on the research activities carried out by the Institution in question during 1979, 1980 and 1981. The data to be entered in the table corresponds to the following:

Columns

1. Project Title: Write down the title of each of the projects undertaken by the Institution during the period 1979-1981, regardless of their status as completed, under implementation, postponed, or pending initiation, at the time of the interview. Use the title utilized by the Institution to identify the projects. Record the information for each project in each of the table's columns before writing down the name of another project.

2. Completed: This refers to the status of the project on 31 December 1981. Mark (+) in this column for each of the projects completed by the reference date, including those completed before the end of 1981.
3. In progress: This refers to the status of the project at the end of 1981. Mark (+) in this column for all projects which were begun during 1981 or earlier, and which had not reached completion by the reference date. Do not consider projects which were suspended after or before being implemented.
4. Suspended: This refers to the status of the project on 31 December 1981. Mark (+) for the projects listed in Column 1 which were commenced during 1981 or earlier, but whose implementation is temporarily postponed. In the case that the project has been definitely discontinued, mark (✓).
5. Never started: Mark (+) in this column for all projects which were never started during 1981 and mark (+) in the appropriate Column for reason(s).
6. Date (month and year) the project was requested:
Write down the number corresponding to the month^{1/} and the last three digits corresponding to the year (Example 1977 = 977).
7. Date (month and year) the project was begun: This is to record the date on which implementation of the project began. Write down the month and year as described in 6.
8. Date (month and year) of completion of the project, as initially programmed: Record the date on which project implementation should have concluded accord-

1/ Numbering of the months:

01=Jan	03=Mar	05=May	07=Jul	09=Sept	11=Nov
02=Feb	04=Apr	06=Jun	08=Aug	10=Oct	12=Dec

ing to the original schedule, regardless of the actual completion date. Write down the month and year as described in 6.

9. Date (month and Year) of estimated completion of the project: This Column only pertains to projects which were not concluded or definitely postponed at the time the interview takes place. Record the date on which the project is expected to conclude, according to the actual progress achieved in project implementation. When this date coincides with the initially programmed completion date, record the date in this Column also, as is indicated in 6.
10. Date (month and year) of actual completion of the project: Record in this Column, only for the projects which were completed at the time of the interview, the date on which project implementation was concluded. Follow the instructions in 6 for notation.
11. Date of suspension (month and year): Following the instructions for Column 6, record the date on which the project was postponed, only for the projects considered postponed at the end of 1981. Also see the instructions for Column 4 regarding the notation (+) and (✓).
12. Principal cause of suspension: This refers only to the projects which were considered postponed at the end of 1981, as indicated in Column 3 of this table. Record only one cause, the most important one, and do not request any further details.
13. Type of project: This Column should be filled in with the code number corresponding to each type of research, as is indicated at the bottom of the table. For example, if the project is one of applied research, write the number 3 in Column 8. The various types are defined as follows:

- Fundamental Research: Scientific activities which are not oriented toward a specific practical application, within previously established objectives. Write the number 1 in Column 8 if the research in question corresponds to this type.
- Basic Research: Scientific activities which are oriented towards a specific practical application within previously established objectives but which require scientific studies of a profound nature. Write down the number 2 if the research in question corresponds to this type.
- Applied Research: This is a creative and systematic endeavour geared toward the achievement of new scientific discoveries which will immediately contribute to the practical solution of specific and previously identified problems which are described in the project's objectives. The results of this research activity are aimed at obtaining valid insight into a particular problem or product, or contribute to the formulation of different operations and practical methods. Write down the number 3 in Column 8 if the research corresponds to this type.
- Experimental Research: This is a creative and systematic activity designed to make use of existing scientific and technical knowledge to introduce new materials, products, instruments, processes, and methods. This type also includes the formulation and testing of models and the construction and operation of pilot plants for experimental purposes. Write the number 4 in Column 8 if the research in question corresponds to this type.
- Documentation: This refers to the systematic collection of scientific and technical data for general use, including the collection of data for specific research projects, inventories, map drawing, compiling of statistics, etc. Write number 4 in Column 8 if the research corresponds to this type.

14. Origin of the proposal: Information is required on which of the alternatives listed led to formulation of the project proposal. Record the answer in the code indicated at the bottom of the table. For example, if the project proposal was prepared by the person responsible for project implementation, write the number 1 in Column 9. The categories are described as follows:

- Proposed by the Head of the Project: Write down the number 1 in Column 9 if the idea or project proposal originated with the person in charge of its implementation.
- A decision of the Unit, not the responsibility of the person in charge of the project: Write the number 2 in Column 9 when the project proposal originated within the executive unit, or with any of its members, other than the person in charge of the project's implementation.
- A decision of the higher authorities, in which the Unit did not participate: Write the number 3 in Column 9 when the project proposal originated within the Institution's executive levels, which are not those of the Unit.
- Part of an integral programme of the Institution: Write the number 4 in Column 9 when the project proposal is part of a research programme being carried out by the Institution to which the Unit is attached. If the proposal is presented by the Unit to the Institution, write down the number 2.
- Requested by another Institution: Write down the number 5 in Column 9 when the project proposal originated with a request from an Institution other than the one to which the Unit belongs.

15. Name of the Institution which submitted the proposal:
Use this Column only in the case that number 5 has been entered in Column 9. Record the name of the Institution, other than the one to which the executive Unit belongs, which submitted the research proposal.
16. Level of Authority which approved implementation of the project: This refers to the level of authority or position of the person who authorized implementation of the project, for example: Board of Directors, Manager, Unit Director, Head of the Project, Minister, Consultant, Co-ordinator, etc. When approval is provided by the person in charge of the project, and this person holds an authoritative position within the Unit or the Institution, both categories must be recorded. Always record the highest level authority.
17. Principal areas dealt with: This refers to the scientific discipline or field of specialization dealt with in the research project. Request information about the subject, and identify the main discipline covered in the project, with the greatest possible detail. For example, if the field is engineering, ask for the area of specialization and write this down.

8. Collaboration in Projects of other Institutions

This section is designed to gather information of any instances of collaboration by the Institution in question with other Institutions in the implementation of scientific and/or technological research projects. The resulting table is described as follows:

Columns

1. Project Title: Record the title of the scientific and/or technological research project which the Institution in question collaborated on, during the year 1981.

2. Collaboration by the Institution's staff: This refers to the type of collaboration provided by the Institution in question. If this collaboration consisted primarily or partly in the utilization of the Institution's human resources, record the estimated cost of these resources in US\$. If there was no collaboration of this type, write (-).
 3. Material Collaboration: If the collaboration consisted primarily or partly in the donation or loan of physical or material goods, write down the value of these goods, or of their use, in US\$. If there was no collaboration of this type, write (-).
 4. Monetary Collaboration: Record the amount of money (cash, cheque, or bank transfers) spent by the Institution during 1981 in collaboration with research projects implemented by other Units. Write down the amount in US\$ and write (-) if there was no collaboration of this type.
 5. Other forms of collaboration: If collaboration was extended through means other than those listed above, write down the corresponding amount in US\$. If not, write (-). Note that entries may be made in more than one Column, including the four listed above.
 6. Name the Institution primarily responsible for implementation of the project: Record the name of the executive Institution for this project, to which the Institution in question has extended its collaboration.
9. Activities Related to Research in Science and Technology
This section deals with the type of activity carried out by the Institution in question, as well as the regularity with which it was carried out, and which specific activities were undertaken during 1981. The corresponding table is described as follows:

Columns

1. Type of activity: Read the description for each one, under the title "categories" on page 20.

2. Permanent: Mark (+) on the line corresponding to the type of activity carried out by the Institution on a permanent or regular basis, even in cases when it was not carried out in 1981, but was continued during 1981. When such activities are not carried out at present, or were carried out only before 1980, mark (-) on this line.
3. Occasional: Mark (+) on the line corresponding to each activity undertaken occasionally by the Institution in question, but which cannot be carried out on a permanent or regular basis. If this case does not occur, mark (-) in this Column.
4. During 1981: Mark (+) on the line corresponding to the types of activities carried out by the Unit during 1981, regardless of its permanent or occasional nature. Mark (-) on the line corresponding to the activities not carried out during 1981.
5. User Sector: In this Column, identify the sector for whose benefit these activities were undertaken. Write down only the code number in the case that these services are extended to agencies or Institutions separate from the Institution being interviewed. Use the code number corresponding to the area of application (Appendix A).

Categories (Col.2)

1. Documentation: Registration, classification, and/or distribution of documents containing scientific or technical information.
2. Technical Aid and Consultancies: Advisory services for potential users of scientific and technical information.
3. Other dissemination activities: Organization of conferences, symposia, meetings, etc.

4. Collection of data: Systematic collection of scientific and technical data for general use, such as specific research activities, inventories, elaboration of maps, compilation of statistics, etc.
 5. Standardization: Control of products' size and quality, for the purpose of identification, comparison and standardization.
 6. Quality Control: Non-routine activities geared toward the analysis, inspection and testing of materials, inputs, products, etc., by means of established procedures. This is meant to guarantee a certain quality level in the processing, techniques and inputs used in the production process.
 7. Metrology: Includes only the testing and calibration of instruments and equipment used for scientific-technological purposes, in order to establish their tolerance levels and the degree of error considered acceptable.
 8. Routine scientific and technological services: Tests and analyses, computer services, etc., carried out on a regular basis. This category excludes all technical procedures in diagnostic and therapeutic medicine.
 9. University-level undergraduate teaching: Includes all teaching activities carried out at the university level, in a scientific or technological field.
 10. Graduate teaching: Includes all teaching activities at the post-graduate level.
10. Dissemination of the Results
- Type of Dissemination: This section is used to identify the means used by the Institution to make its fundings public during 1981, as well as the type of publications it produced. Mark (+) for the means utilized and the types of publications produced, and (-) for the ones not utilized or produced. This refers specifically to the findings of research carried out by the Institution. The resulting table is described as follows:

Columns

1. Type of publication: Identify the types of publications produced by the Institution in question, according to the categories defined below:
 - Yearbook: Printed publication produced on a yearly basis, usually containing statistical data.
 - Bulletin: Printed publication produced regularly, more than once a year, usually containing statistical data.
 - Book: Extensive publication, published on a non-regular basis, dealing with one or more interrelated subjects.
 - Monograph: Brief printed publication which appears on a non-regular basis and deals with a single subject.
 - Journal: Printed publication which appears regularly and covers several subjects, not necessarily interrelated.
 - Other: Specify any other type of publications put out by the agency in question, which do not fall into any of the above categories.

2. Publications produced by the Institution regularly: For the types of publications defined in Column 1, mark (+) for the ones which the Institution published on a regular basis. In cases where the Institutions does not produce any publications, write (-). If a type of publication was produced that is not included in the categories listed for Column 1, describe the publication.

3. Publications produced during 1981: Mark (+) for the types of publications marked (+) in Column 4, which were produced during 1981 and (-) in all other cases.

4. Other means of dissemination: This Column deals with the means, other than printed publications, utilized by the Institution for publicizing its research findings. These are described below:

- Organization of National Seminars: Mark (+) if the institution in question organized national seminars during 1981, for the purpose of making its research findings known to the public, without inviting foreign specialists. (Persons residing outside of the country). These may be considered national seminars even when resident members of international organizations and foreign governments were invited to attend. The term "seminar" includes workshops, meetings, conferences, etc.
- Organization of international seminars held in the country: Same as the above, except that foreign specialists were invited to attend.
- Organization of seminars outside of the country: Seminars organized by the agency in question, which were held outside of the national territory.
- Participation in national seminars: Mark (+) if the Institution in question presented papers relating to its research activities in national seminars. Mark (-) for the cases in which a paper was not presented, although the Institution participated in the seminar. See the definition of "national" given for the first category in this Column. This category excludes the seminars which were organized by the Institution.
- Participation in international seminars held in the country: Mark (+) if the agency in question presented papers dealing with its research findings at international seminars held in the country during 1981. Mark (-) if a paper was not presented, even though the Institution participated in the seminar. This category excludes the seminars which were organized by the agency.
- Participation in seminars held outside the country: Same as the above, except that the seminars were held outside of the national territory.

- Participation in Radio Programmes: The Institution in question publicized its research findings by means of radio programmes.
- Participation in Television Programmes: The Institution in question publicized its research findings by means of television programmes.
- Other: Specify any means not listed in any of the above categories.

5. Utilization: Mark (+) by any of the means defined in Column 7 which were utilized by the agency during 1981 to disseminate its research findings. Mark (-) for the ones which were not utilized. If the Institution used any means other than the ones described, describe this.

11. Professional Scientific Staff

This section is designed to obtain information about the professional scientific staff employed by the Institution during the period 1980-1981. Information is requested for all professional scientific staff as described in the instructions for each Column of the resulting table.

Columns

1. Name: Request and record in this Column, the full name of each of the professional scientific staff who worked in the Institution during the years 1980-1981, regardless of the nature of his/her contract or whether he/she worked for only part of a year. Complete the Columns corresponding to each person before filling in the next name. After the table is completed, count the number of persons and request verification of this number.
2. Position held: Record here the person's position within the Institution, for each of the persons listed in Column 1. In the case that a person held different positions during the reference period, describe his/her most recent one.
- 3.- Mark (+) for each of the years during 1980-1981 in
4. which the person was involved in scientific activities.

5. Present address: Describe in this Column the present home or work address for each of the persons whose name appears in this table. Write down the address where he/she is most likely to be found, so that he/she may be interviewed at a later date, if necessary.

12. Professional Support Staff

This section is designed to obtain information about the professional support staff employed by the Institution during the period 1980-1981. Information is requested for all professional support staff as described in the instructions for each Column of the resulting table.

Columns

1. Name: Request and record in this Column, the full name of each of the professional support staff who worked in the Institution during the years 1980-1981, regardless of the nature of his/her contract or whether he/she worked for only part of a year. Complete the Columns corresponding to each person before filling in the next name. After the table is completed, count the number of persons and request verification of this number.
2. Position held: Record here the person's position within the Institution, for each of the persons listed in Column 1. In the case that a person held different positions during the reference period, describe his/her most recent one.
- 3.- Mark (+) for each of the years during 1980-1981 in which the
4. person was involved in scientific activities.
5. Present address: Describe in this Column the present home or work address for each of the persons whose name appears in this table. Write down the address where he/she is most likely to be found, so that he/she may be interviewed at a later date, if necessary.

13. Non-Scientific Staff

This section is designed to ascertain the number of persons working in a non-scientific capacity who were employed by the Institution during the period 1980-1981.

Columns

1. Name: Request and record the full name of each of the persons who worked on the project, regardless

of his/her employment category, the time he/she spent working on the project, or the type of contract with which he/she was employed. Fill in the Column corresponding to each person before writing in another name. When the table is completed count the number of persons and verify this total.

2. Principal duty: Write down the main duty of each of the persons who worked on the project, as listed in Column 1. In the case that the person acquired different duties during the course of the project, record only his most recent position.

14. Identification of the Interviewee

This question is geared toward identification of the person who provided the responses to the questionnaire, for the purpose of later verification of the answers obtained. Try to write all of this information: name, position, telephone number and extension, within the allotted space. Request the person's signature, as a means of ensuring the accuracy of the answers.

15. Identification of the Interviewer

This space is provided for the information required about the person conducting the interview, as well as some details about the interview as such. The interviewer should write down his name and the date the interview was conducted, and whether this corresponds to the first contact made with the agency. The rest of the details: date ended, number of visits, and number of attached sheets will obviously be filled in on the last visit, before the questionnaire is submitted to the supervisor. Check that all questions have been answered, and that the attached sheets are duly numbered, beginning with A-1. Finally, sign the questionnaire in the space provided.

16. Observations

Use the space for any explanatory notes, especially regarding the questions on the questionnaire, the answers obtained and/or missing answers. In each case, refer to the number of the question to which the observation corresponds.

SECTION 2: SCIENTIFIC AND TECHNICAL STAFF

The questions contained in this section are described in the outline below, which includes definitions of the concepts involved and instructions regarding notation. The outline follows the order in which the questions appear in the questionnaire. Follow these instructions as closely as possible, and review the contents of the questionnaire before beginning the interview. All questions regarding the questionnaire should be addressed to the Supervisor.

1. Identification

1.1 Institution

Before beginning the interviews record the name of the Institution to which the person is attached.

1.2 Name of the person interviewed.

Begin the interview by introducing yourself in the following manner:

Sir/Madam, I wish to request an interview with you regarding your research activities with this Institution. (State the name of the Unit recorded in 1.1).

Write down the person's full name and continue the interview.

1.3 Sex: Mark (+) male or female

1.4 Date of birth: Record the interviewee's date of birth (day, month and year).

1.5 Nationality: Record the interviewee's nationality (in 1981).

1.6 Were you residing in the country during 1981 for the purpose of participating in this project?

Determine whether the person interviewed resided in the country during 1981 for the sole purpose of participating in the project in question. Mark (+) yes or no as the case may be.

2. Position in the Institution

2.1 What was the last position you held while working in this Institution during 1981?

Write down the last position held by the interviewee while working in the Institution during 1981.

2.2 What was your main duty during 1981?

In the corresponding space, describe the main duty of the person within the Institution during 1981.

2.3 In which scientific or technological field of specialization did you work during 1981?

2.4 What type of contract or other employment agreement were you offered in the Institution during 1981?

Mark one of the categories described below:

- Exclusive employment: The contract specifies that the person may not engage in activities other than those corresponding to the Institution.
- Full-time: The person is subject to the work schedule established for all personnel, or else must dedicate a minimum of 44 hours per week to the project in question.
- Part-time: The contract specifies a minimum of less than 44 working hours per week, or a lesser number of hours than is required of the staff in general.

2.5 State the dates corresponding to the periods in which you worked for the Institution.

Record the date on which the interviewee began and concluded each working period. Each line corresponds to a different period, in the cases of persons employed by the agency on more than one occasion.

3. Activities within the Institution

3.1 How many hours per week did you work in the Institution as stipulated in your official contract, designation, or assignment?

Record the corresponding hours per week, in the space provided.

3.2 On the average, how many hours per week did you work on research activities?

Record the number of hours/week in the space provided.

3.3 Research and related activities: This refers to all activities, regardless of the category necessary for carrying out research activities. Record the percentage of time corresponding to each of the categories listed and described below:

- Administrative tasks: Writing reports, signing vouchers, requesting disbursements, authorizing purchases, etc.
- Training of personnel: Lectures, conferences, meetings, demonstrations, etc. especially for agency staff, though not exclusively.
- Receiving training: Attending classes, conferences, demonstrations, especially when these were related to the agency's research activities.
- The actual research: Activities comprising a particular stage in the implementation of research projects, especially those relating to the agency's specific objectives.
- Other: Tasks which cannot be included in any of the above categories, but which are related to research.
- Other tasks (specify): This includes routine activities carried out by the agency which are not related to research, such as planning, operations and dissemination of information.

3.4 In which of the following research stages did you participate?

The five categories formulated for this question are described below, corresponding to the person's past, present or future participation in the research project in question. Mark (-) for the stages in which

the person did not participate. Note that each person may participate in more than one category, or in all of them.

- Identification of the problem, objectives and hypothesis: This stage includes all activities involved in the project's formulation and implementation, including feasibility studies, formulation of research objectives, and design of the hypothesis to be tested. Elaboration of the research project proposal and authorization are also included among these activities.
- Selection of the research methods: This refers to the final version of the general research plan, which identifies the type of research to be carried out, sampling design, selection and elaboration of the quantification mechanisms, training, classification and tabulation, analysis and publications of the results.
- Collection of information: This involves observation and/or measurement of the characteristics under study, as well as modification, critical analysis, and tabulation of the measurements obtained.
- Analysis of the research findings: This involves the elaboration of descriptive statistics for each of the characteristics measured, comparisons and identification of interrelationships, application of validity tests to the results obtained for each working hypothesis and the elaboration of summary tables and diagrams.
- Publication: Elaboration of reports and other means of communication and dissemination of the information obtained.

4. Academic Level

In this section, information is requested on the academic level achieved by the person interviewed. The resulting table and the categories contained are described below:

Columns

1. Degree: This is the academic degree obtained by the person interviewed.

Note that the person may have obtained the same degree in several disciplines within the area of Science and Technology, or different degrees in the same discipline. The Column is divided into two parts: the first corresponds to the degrees obtained from university-level studies, and the second, to degrees from graduate work. Any degrees not specified above should be listed on the line marked "other". Mark "none" when the person has not obtained a degree of any kind, although he/she may have acquired specialized skills within the fields of Science and Technology.

2. Fields of Science and Technology: Record here the name of the area within the fields of Science and Technology in which the person obtained the academic degrees listed in Column 2.
3. Fields of specialization: This refers to the acquisition of specialization skills in a particular field of Science and Technology. Record the name of the field of specialization.
4. Name of the academic Institution: This refers to the Institution for higher education in which the person obtained his/her university, graduate, or specialization degree. Record the name of the Institution on the first line, and the fields of specialization on the others.
5. Location of the academic Institution: This refers to the country in which the academic Institution identified in 5 is located.
6. Duration of studies: Record the month and year in which the interviewee began his/her studies for his/her university, graduate or specialization degrees.

5. Experience in Research

The question begins on page 5, where Columns 1 to 5 are found. Column 1 is for the numerical identification of the project, Column 6 is for con-

tinuation of the question and is found on page 7. Turn to page 7 and continue the question. Remember to fill in Column 6 immediately for a continuation of the numerical identification of the project. (It will be the same as that in Column 1).

If there are more projects than can be completed on page 5, turn to page 6 and follow the same procedure as before, i.e. continue to Column 6 on page 8.

This section is designed for obtaining information on the person's experience in the field of scientific and technological research. See the notes at the bottom of the page. The Columns in the corresponding table are described below:

Columns

1. Title of the project: Write here the title of each of the research projects in which the person interviewed has participated in the past, regardless of when or where they were carried out. Check the name if the project was completed during 1981 or was being implemented at the end of that year. Fill in all of the Columns on the same line as the project title, before continuing onto the next project.
2. Main scientific or technological discipline involved: For each research project listed at left, record the name of the main discipline covered in the project.
3. Name of the head Institution: Record here the name of the Institution in charge of implementing the afore-mentioned project. When more than one Institution is involved, record the name of head Institution. Note footnote 1/. This indicates whether the project was implemented as a result of the researcher's own initiative, rather than as an employee of the agency. In this case, write only the person's name in this Column.
4. Name of the head sponsoring agency: This refers to an agency providing sponsorship for the project, through donations or grants. Write down the name of this agency, or in the case that more than one agency granted its

sponsorship, record the name of the one which contributed the largest amount. See footnote 2/. This refers to the case in which only the researcher's name is recorded in Column 3. When this is the case, ask the following questions: Did you obtain a grant for execution of this project? If the answer is affirmative, record the name of the Institution which extended the grant. If the answer is negative, ask the following question: Did you request financial assistance? If the answer is affirmative, mark (+) in the Column corresponding to the sponsoring agency. If the answer is negative, mark (-) in this Column.

5. Country in which the project was implemented: Record the name of the country in which the afore-mentioned project was implemented.
6. Main duty within this project: This refers to the person's position within the project, which should be recorded in the space provided.
7. Year of completion: Record the year in which each of the projects in which the interviewee participated was completed.

6. Publications

This section deals with the publications related to Science and Technology which were written by the person being interviewed. The following questions correspond to this section:

Columns

1. Subject covered: Record the title of each one of the subjects covered in the interviewee's publications.
2. Field of specialization: This refers to the scientific discipline or field of specialization dealt with in the research project. Request information about the subject, and identify the main discipline covered in the project, with the greatest possible detail. For example, if the field is engineering,

ask for the field of specialization and write this down. Record the field of specialization to which the subjects listed in 1. correspond.

3. Type of publication: This refers to the nature of the publication (book, bulletin, journal, etc.) used for publishing the afore-mentioned subject.
4. Title of the publication: Record the name of the publication corresponding to each subject.
5. Country in which it was published: Record the name of the country in which the above-mentioned publications first appeared.
6. Publisher: Write down the name of the publishing house, for each case.
7. Year published: Record the year in which the publication first appeared as such.

7. Academic Experience

This is designed to ascertain the involvement with any teaching programmes in 1981 by the scientist and/or technologist involved. In the case that he/she was involved in more than one teaching programmes during 1981, record these numerically, beginning with the one he/she was last involved with, and numerating backward.

- 7.1 Write down the title of any teaching programme(s) in which you have participated during 1981.
- 7.2 Write down the main scientific and/or technological disciplines you were involved with in your teaching programme.
- 7.3 Record the title of the course(s) you taught during 1981.
- 7.4 Write down the name of the Institution in which you were involved in teaching activities during 1981.
- 7.5 Write down the position you held in the Institution in which you were involved in teaching activities during 1981.
- 7.7 Record the length of the period during which you were involved in teaching activities during 1981. Use the format as described in Section 1, Nos. 7 and 8.

8. Identification of the Interviewee

This question is geared toward identification of the person who provided the responses to the questionnaire, for the purpose of later verification of the answers obtained. Try to write all of this information: name, position, telephone number and extension, within the allotted space. Request the person's signature, as a means of ensuring the accuracy of the answers.

9. Identification of the Interviewer

This space is provided for the information required about the person conducting the interview, as well as some details about the interview as such. The interviewer should write down his name and the date the interview was conducted, and whether this corresponds to the first contact made with the agency. The rest of the details: date ended, number of visits, and number of attached sheets will obviously be filled in on the last visit, before the questionnaire is submitted to the supervisor. Check that all questions have been answered, and that the attached sheets are duly numbered, beginning with A-1. Finally, sign the questionnaire in the space provided.

10. Observations

Use the space for any explanatory notes, especially regarding the questions on the questionnaire, the answers obtained and/or missing answers. In each case, refer to the number of the question to which the observation corresponds.

APPENDIX A

AREA OF APPLICATION

- .01 Agriculture, Forestry, Hunting and Fishing.
 - .1 Agriculture
 - .2 Livestock
 - .3 Forestry
 - .4 Hunting
 - .5 Fishing
- .02 Mining and Other Extractive Industries
- .03 Manufacturing
 - .1 Agro-industry, Food Processing
 - .2 Other types of Agro-industries
 - .3 Foods, other
 - .4 Beverages and Tobacco
 - .5 Metal Works
 - .6 Chemical Products
 - .7 Textiles and Fibres
 - .8 Clothing, Footwear, Accessories
 - .9 Other
- .04 Conventional Energy
- .05 Space
- .06 Defence and National Security
- .07 Earth Sciences and Natural Resources
 - .1 Non-conventional Energy
 - .2 Transportation and Communications
 - .3 Sewerage and Aqueducts
 - .4 Irrigation
 - .5 Other
- .08 Automatization, Information and Documentation
- .09 Construction
 - .1 Construction of Homes
 - .2 Construction, Other

- .3 Other
- .10 Physical and Regional Planning
 - .1 Urbanization
 - .2 Land Surveying
 - .3 Aerial Surveying
 - .4 Other
- .11 Socio-economic Structure
- .12 Health and Hygiene
 - .1 Public
 - .2 Clinical
- .13 Commerce, Finance, Other Services
 - .1 Commerce in Goods (not Real Estate)
 - .2 Finance
 - .3 Other Services
- .14 Education
 - .1 Primary and Secondary
 - .2 Higher Education
 - .3 Technical
 - .4 Basic Skills
- .15 Geology
- .16 Other

