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SCIENTIFIC AND TECHNOLOGICAL SURVEY IN THE
DOMINICAN REPUBLIC DURING 1980

INTERVIEWERS MANUAL



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SCIENTIFIC AND TECHNOLOGICAL SURVEY IN THE

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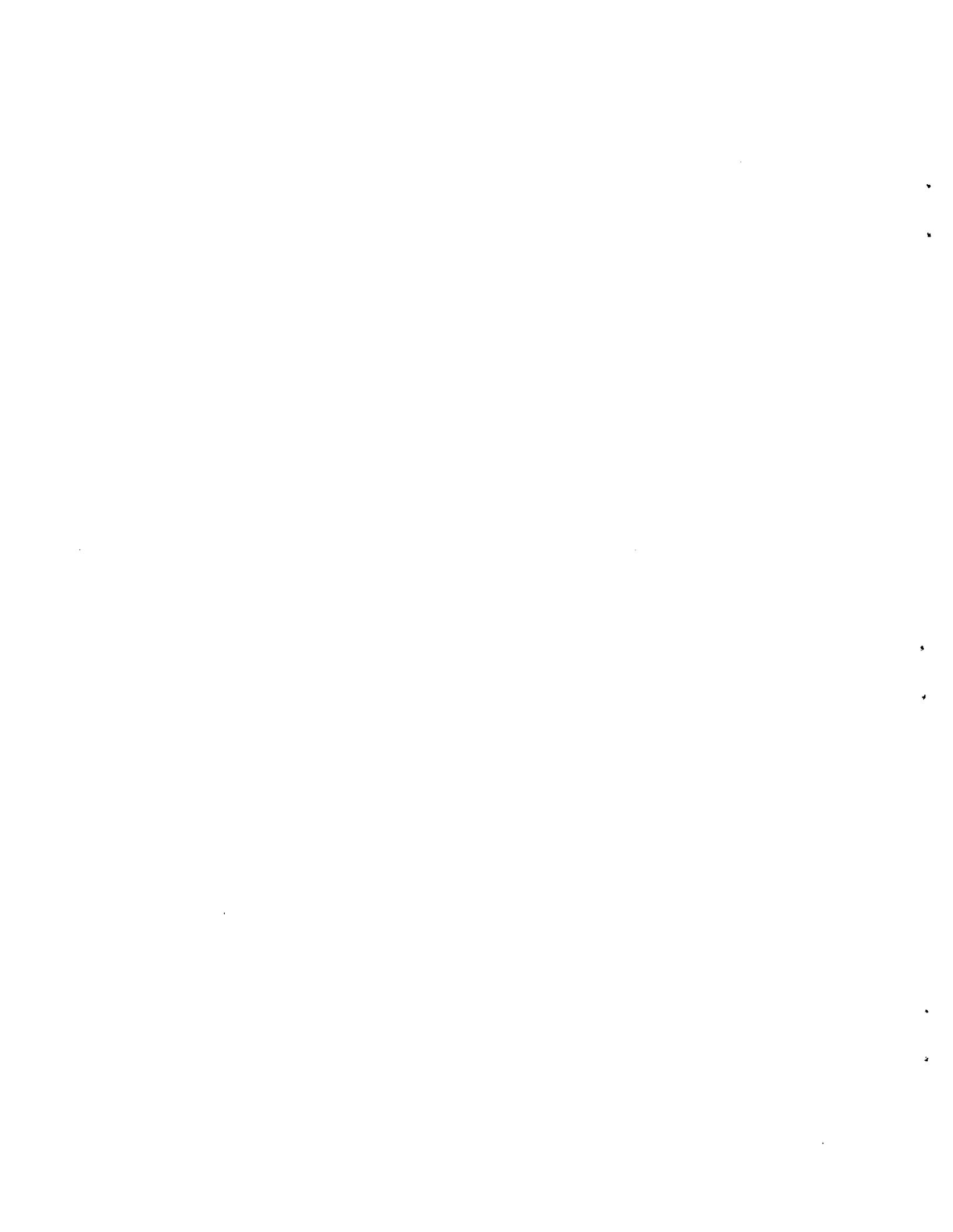
INTERVIEWERS MANUAL

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INTRODUCTION

This document contains instructions for carrying out the SCIENTIFIC AND TECHNOLOGICAL ACTIVITIES SURVEY -STAS- IN THE DOMINICAN REPUBLIC DURING THE YEAR 1980. The survey was sponsored by the Organization of American States (OAS) and the United Nations Interim Fund for Science and Technology in Development. For the purpose of more effective international comparisons, the definitions and classifications contained in the STAS were matched with the "Project for the Revision of Statistical Norms Regarding Science and Technology" prepared by OAS-COINS.^{1/}

COVERAGE: The framework utilized for the STAS comprises the Dominican Republic's public sector, excluding the enterprises which are administered by the Dominican Republic State Enterprise Corporation (CORDE) and by Rosario Dominicana, S.A.; private institutions for higher education were included. STAS covered all statistical units of this type which included, among their permanent activities, scientific and/or technological research, even in cases where this is not the institution's main line of activity.

STATISTICAL UNIT: For the purposes of this survey, the INSTITUTE is the primary research unit. It is defined as any organization, whether or not it is subordinate to another agency, whose activity is totally or partially geared toward scientific and/or technological research. The Institute may possess subordinate units to which the science and technology aspects of its activities are delegated.

The principal characteristic of the Institute is that its tasks are carried out autonomously, under its own direction and within a definite sphere of responsibility. That is to say, the Institute's activities are not subject to general norms established by a larger agency to which it may be attached, or to requirements for coordination with other units of said agency.

^{1/} Sub-Committee for Science and Technology - Related Statistics: Section Report I, May 14-26, 1979. Organization of American States General Secretariat. 1975.

INSTITUTES may have different titles, such as: Institute, Department, Research Center, etc., according to the type of organization, its responsibilities, links with other institutions (government, autonomous, private), size, and administrative level. This survey covers only the following types of Institutes:

1. Public and private universities and other institutions for higher education. These are defined as such when the minimum requirement for admissions is completion of the secondary school cycle.
2. Decentralized government institutions, or agencies attached to one such institution, excluding the enterprises administered by CORDE or Rosario Dominicana, S.A.
3. Institutes attached to a high-level government agency (Ministries, etc.)

The secondary statistical unit utilized is the "UNIT", comprised of a group of persons participating, on a permanent basis, in scientific and/or technological research. This need not be their sole activity or function. The survey includes only those units which were in existence during the reference period.

REFERENCE PERIOD. The reference period covers the entire 1980 calendar year. Therefore the survey will focus on all those which had among their working objectives a continuous participation in scientific and/or technological research during 1980, whether or not activities of this type were carried out during the reference period.

THE QUESTIONNAIRE: The STAS questionnaire, for which instructions are provided in this manual, is comprised of five separate sections or parts. This design is meant to facilitate the field stage, as well as the critical review and coding stages, which are carried out simultaneously with the interviewing. The five sections are comprised of the following:

SECTION 1: INSTITUTE. This focuses on the highest-level statistical unit. The information provided in this interview is subsequently used to determine the coverage necessary, within each Institute, of lower-level Units.

- SECTION 2: UNIT. This form is designed for the collection of information on secondary statistical units. This information provides the basis for identifying the science and technology research projects which were begun and implemented during the reference period, as well as the most significant characteristics of projects of this type which were completed between 1977 and 1979, or were begun in 1981. This section also identifies the staff members actively involved in scientific and/or technological research during the period 1978-1980.
- SECTION 3: PROJECTS. This section centers on each one of the science and/or technology research projects which were completed or were being implemented during the calendar year 1980.
- SECTION 4: STAFF. This questionnaire is designed for interviews with persons participating in science and technology research projects during 1978-1980.
- SECTION 5: EXPENDITURES. The practical difficulties in obtaining comparable information for the various administrative levels covered by the survey make it necessary to create a separate section for this item, to be applied at a later stage. The data gathered during the first stage may be cross-tabulated with information taken from the primary institution's accounts.

The "INTERVIEWER'S INSTRUCTIONS MANUAL" presents the questions included in each section of the questionnaire, in the order in which they appear, followed by instructions pertaining to definitions, coverage, and recording of the corresponding response. When a particular feature and its classification appear in more than one section, the description is included only in the first, and is subsequently referred to by page and question numbers.

Two aspects of the STAS questionnaire require explanation. First, the degree of open-endedness which does not facilitate the coding process. Second, the degree of detail required for most characteristics could lead to consideration of the STAS as "utopic" by some experts. Nonetheless, the identification of local problems regarding statistical information pertaining to science and technology is, and must be, one of STAS' most important objectives. Also of importance is the establishment of a continuous and detailed system for collection of this type of statistical data, within a larger framework than that contemplated in this particular endeavour. Thus, the open-endedness and degree of detail present in the questionnaire, constitute implicit objectives of the STAS.

SECTION 1: INSTITUTES

The questions contained in the interview forms for Institutes 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 agency at the end of 1980?
(Specify: Institute, Department, Section, Division, Unit, Group, Commission, etc.)

Write down the name under which the agency in question received and mailed official or formal correspondence at the end of 1980. Before the name, specify the official title (Institute, Department, etc.)

- 1.2 What is the name of the institutions to which this office was administratively subordinate at the end of 1980?

Record the official name of the institution or agency which was,

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 Agency 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.

4. Basic Services

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

Columns

1. COD.: Do not write in this column.
2. Type of Service: See the description of each category (Col.2), provided below.
3. Property of the Agency: Mark (+) in this column for those services which are the exclusive property of the agency and its branch offices (not of a higher level).

When the agency has no exclusive property holdings, mark (-) in this column.

4. 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 agency in question. These may be considered accessible only when they are located in the same building or complex as the agency or one of its branch offices. When services are not available in this manner, mark (-) in this column.

Categories (Col. 2)

1. Library: Office or locale where books are stored and classified, for purposes of reading within the locale or for lending to the agency's personnel. This is a passive type of service.
2. Documentation and Information Center: This service provides up-to-date information (reproduction, publications, etc.) on scientific research subjects relevant to the particular agency's objectives. This information is geared specifically toward the needs of the agency'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 Center 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 Center 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. Computation Service: Determines the availability of computer equipment to the agency 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 agency's property. Availability of this service should be recorded in Columns 3 and 4 accordingly, regardless of capacity for meeting the agency's needs in this field,

or infrequent use. Mark (-) in the designated columns when the agency 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 agency keeps continuous records of income and expenditure, that is to say, account books. This service is especially important with respect to 1980. When the service is provided from outside of the agency, 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 nonexistent. 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 office.

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.

5. Income during 1980

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 1980, whether this is received directly by the agency 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 \$DR and cents, 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 2 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. COD.: Do not write in this column.
2. Item and source: See the numbered categories listed below, under "categories" (Col.2), which follow the questionnaire's sequence.
3. Cash income, total: For each category, write down the total amount of income received (cash, check, bank transfer) during 1980. Record only the amount received by the agency for its own use, and do not include amounts which were not made available to the agency during the reference period. Remember to record the amounts in \$DR and cents, and mark (-) where there is no value to be registered.
4. Cash income, not included: This refers to the part of the total amount recorded in column No.3 which was not considered cash income by the institution to which the agency in question is hierarchically

subordinate, because it was received directly by the agency. These values should be compared with the data received from the head institution. With regard to notation, see the last sentence in point 3.

5. Income in kind, total: For each category, record the total estimated value of the goods and services received during 1980, including those received directly by the agency. Include the value of goods and services donated to the agency in question. In the cases of goods received in loan, include these also, even when the goods were returned during the reference period. Follow the above instructions for notation of these values.
6. Income in kind, not included: This refers to the part of the total value recorded in column No.5 which was not considered income in kind by the institution to which the agency in question is hierarchically subordinate, because it was received directly by the agency. These values should be compared with the data received from the head institution. Follow previous instructions for notation.

Categories (Column 2) Item:

1. Amount received from the head institution: This category includes income provided by the institution to which the agency in question is subordinate, and corresponds to the year 1980. When a loan, contract, donation, etc., is negotiated for the exclusive use of the agency 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 1980. 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 1980.

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 a research contract: This category is used to record all income received by the agency 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.2), source, as well as in appendix B. Make certain that this income was not included in 1.
4. Amount received from the provision of technical services: This category corresponds to the income received from services rendered by the agency 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 1980, directly by the agency or through the head institution, for the exclusive use of the agency in question. Make certain that this value is not included in 1.
6. Record the amount of all other income received during 1980 which has not been included in any of the other categories. Do not request details about this income; record only the total amount. Make certain that this amount is not included in 1.
7. Total: This category includes the total income received by the agency in question during 1980. Verify that this amount corresponds to the sum of all the other categories.

Categories (Col.2) Source:

The sources of income have been stratified as detailed in Appendix B, which contains the following classifications:

1. Central Government: This is comprised of the National Government and the institutions whose budgets are contemplated in the Public Expenditure Law.

2. Decentralized Government: State organizations and institutions given autonomous status. These include local and district governments.
3. Public Institutions for Higher Education: Includes universities, colleges, and other institutions for higher education which have, as their minimum admissions requirement, the completion of the secondary school cycle; and which receive 50% or more of their funds from the government.
4. State Enterprises: Enterprises in which the government owns more than 50% of the shares, including the enterprises administered by CORDE and Rosario Dominicana, S.A.
5. Private Institutions for Higher Education: Includes universities, colleges, and other institutions for higher education which have, as their minimum admissions requirement, completion of the secondary school cycle, and which receive 50% or more of their funds from sources other than the government.
6. National Private Businesses: This category includes all institutions and persons residing in the country who are not included in the categories listed above or below.
7. International Organizations and Foreign Governments: Institutions whose members are the governments of various countries or who belong to the governments of other countries.
8. Others: (Specify) Record here the names of other sources of the income received during 1980, the corresponding category and why they were not listed under the above-mentioned types of sources.

6. Branch Offices

This question is designed to determine how many and which of the agency'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 agency'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. 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.

8. 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.

9. 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: UNIT

This part of the manual corresponds to the second questionnaire form, dealing with the Unit. Each concept contained therein is defined below, and instructions relevant to each question are given. The questions are presented in the order in which they appear in the questionnaire. Some of the questions are also contained in the Institute questionnaire. In these cases, reference is made to the instructions for the Institute form. Follow the instructions as closely as possible and review the questionnaire before commencing the interview. Any questions should be taken up with the Supervisor.

1. Identification and Location

- 1.1 See No. 1.1 on page 4
- 1.2 See No. 1.2 on page 4
- 1.3 See No. 1.3 on page 5
- 1.4 See No. 1.4 on page 5
- 1.5 See No. 1.5 on page 5

2. Objectives and Functions

- 2.1 See No. 2.1 on page 5
- 2.2 See No. 2.2 on page 6
- 2.3 See No. 2.3 on page 6
- 2.4 See No. 2.4 on page 6
- 2.5 See No. 2.5 on page 6

3. Research Policies

- 3.1 See No. 3.1 on page 7
- 3.2 See No. 3.2 on page 7
- 3.3 What percentage of the agency's working hours were spent on each of the following activities during 1980?
 - 3.3.1 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.

2. 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.

4. See No. 4 on page 7

5. Research Projects

In this section information is collected on the research activities carried out by the Unit in question during 1977, 1978, 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 Unit during the period 1977-1981, regardless of their status as completed, under implementation, postponed, or pending initiation, at the time of the interview. Use the title utilized

by the Unit 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 1980. Mark (+) in this column for each of the projects completed by the reference date, including those completed before the end of 1980.
3. Under Implementation: This refers to the status of the project at the end of 1980. Mark (+) in this column for all projects which were begun during 1980 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 1980. Mark (+) for the projects listed in column 1 which were commenced during 1980 or earlier, but whose implementation is temporarily postponed. In the case that the project has been definitely discontinued, mark (✓).
5. Not yet Begun: Mark (+) in this column for all projects which will be first implemented during 1981.
6. Date (month and year) the project was begun: This is to record the date on which implementation of the project began. Write down the number corresponding to the month^{1/} and the last three digits corresponding to the year (Example 1977 = 977). In the case of projects which have not yet begun, mark (-).
7. Date (month and year) of completion of the project, as initially programmed: Record the date on which project implementation should have concluded according to the original schedule, regardless of the actual completion date. Write down the month and year as described in 6.

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

8. Date (month and year) of probable 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.
9. Date (month and year) of actual completion of the project: Record in this column, only for the projects which were completed at the moment of the interview, the date on which project implementation was concluded. Follow the instructions in 6 for notation.
10. Date of postponement (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 1980. Also see the instructions for column 4 regarding the notation (+) and (✓).
11. Principal cause of postponement: This refers only to the projects which were considered postponed at the end of 1980, as indicated in column 4 of this table. Record only one cause, the most important one, and do not request any further details.
12. Type of research: 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 2 in column 12. The various types are defined as follows:

Basic Research: Scientific activities which are not oriented toward a specific practical application, within previously established objectives. Write the number 1 in column 12 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 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 2 in column 12 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 3 in column 12 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 the number 4 in column 12 if the research corresponds to this type.

13. **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 13. The categories are described as follows:
- **Proposed by the Head of the Project:** Write down the number 1 in column 13 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 13 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 13 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 13 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 13 when the project proposal originated with a request from an institution other than the one to which the Unit belongs.
14. Name of the institution which submitted the proposal: Use this column only in the case that number 5 has been entered in column 13. Record the name of the institution, other than the one to which the executive Unit belongs, which submitted the research proposal.
 15. Level of Authority who 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, Coordinator, 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.
 16. Scientific field: 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.
 17. COD. Do not write in this column or any of the following ones (numbers 17 through 26).

6. Collaboration with other Agencies

This section is designed to gather information of any instances of collaboration by the agency in question with other agencies 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 agency in question collaborated on, during the year 1980.
2. Collaboration by the agency's staff: This refers to the type of collaboration provided by the agency in question. If this collaboration consisted primarily or partly in the utilization of the agency's human resources, record the estimated cost of these resources in \$DR and cents. 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 \$DR and cents. 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 Unit during 1980 in collaboration with research projects implemented by other Units. Write down the amount in \$DR and cents 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 \$DR and cents. If not, write (-). Note that entries may be made in more than one column, including the four listed above.
6. COD.: Do not write in this column.

7. Name the institution primarily responsible for implementation of the project: Record the name of the executive institution for this project, to which the agency in question has extended its collaboration.

7. Activities Related to Research in Science and Technology

This section deals with the type of activity carried out by the agency in question, as well as the regularity with which it was carried out, and which specific activities were undertaken during 1980. The corresponding table is described as follows:

Columns:

1. COD: Do not write in this column.
2. Type of activity: Read the description for each one, under the title "categories" on page 23.
3. Permanent: Mark (+) on the line corresponding to the type of activity carried out by the agency on a permanent or regular basis, even in cases when it was not carried out in 1980, 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.
4. Occasional: Mark (+) on the line corresponding to each activity undertaken occasionally by the agency in question, but which cannot be carried out on a permanent or regular basis. If this case does not occur, mark (-) in this column.
5. During 1980: Mark (+) on the line corresponding to the types of activities carried out by the Unit during 1980, regardless of its permanent or occasional nature. Mark (-) on the line corresponding to the activities not carried out during 1980.
6. Usage 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 agency being interviewed. Read the instructions at the bottom of page 5 of the questionnaire. As is

stated there, use the code number corresponding to the area of application (Appendix A), after first writing the digits 1, 2, or 3, corresponding to the Government of the Dominican Republic, an international or foreign organization, or another sector, respectively.

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 related activities: Organization of conferences, symposiums, 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 equipments 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 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.

8. Dissemination of Research Findings

8.1 Means of Dissemination: This section is used to identify the means used by the agency to make its findings public during 1980, 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 agency. The resulting table is described as follows:

Columns:

1. COD.: Do not write in this column.
2. Type of Publication: Identify the types of publications produced by the agency 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.
3. Outside Publications: Mark (+) for each type of publications utilized

by the agency to publicize its research findings, employing the categories defined in the instructions for column 2. Mark (-) for those which were not employed. If a different type of publication was used, specify as for "other" in column 2.

4. Publications produced by the agency: For the types of publications defined in column 2, mark (+) for the ones which the agency published on a regular basis. In cases where the agency does not produce any publications, write (-). If a type of publication was produced that is not included in the categories listed for column 2, describe the publication.
5. Publications produced during 1980: Mark (+) for the types of publications marked (+) in column 4, which were produced during 1980 and (-) in all other cases.
6. COD.: Do not write in this column.
7. Other means of dissemination: This column deals with the means, other than printed publications, utilized by the agency for publicizing its research findings. These are described below:
 - Organization of National Seminars: Mark (+) if the agency in question organized national seminars during 1980, for the purpose of making its research findings known to the public, without inviting foreign specialists. (Persons residing outside of the Dominican Republic). 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 Dominican Republic: Same as the above, except that foreign specialists were invited to attend.
 - Organization of seminars outside of the Dominican Republic: Seminars organized by the agency in question, which were held outside of the national territory.

- Participation in national seminars: Mark (+) if the agency 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 agency 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 agency.
 - Participation in international seminars held in the Dominican Republic: Mark (+) if the agency in question presented papers dealing with its research findings at international seminars held in the Dominican Republic during 1980. Mark (-) if a paper was not presented, even though the agency participated in the seminar. This category excludes the seminars which were organized by the agency.
 - Participation in seminars held outside the Dominican Republic: Same as the above, except that the seminars were held outside of the national territory.
 - Participation in Radio Programmes: The agency in question publicized its research findings by means of radio programmes.
 - Participation in Television Programmes: The agency in question publicized its research findings by means of television programmes.
 - Other: Specify any means not listed in any of the above categories.
8. Utilization: Mark (+) by any of the means defined in column 7 which were utilized by the agency during 1980 to disseminate its research findings. Mark (-) for the ones which were not utilized. If the agency used any means other than the ones described in column 7, describe this.

8.2 Publications

In cases where publications were listed in the table corresponding to 8.1, these should also be listed in this section, according to the categories defined below:

Columns:

1. COD.: Do not write in this column.
2. Subject matter of the publications: Describe the subjects dealt with in the publications, in sufficient detail for identifying the fields of specialization, within the area of science and technology, in which they may be classified. Utilize more than one line, if necessary.
3. COD.: Do not write in this column.
4. Types of publications: Write down the types of publications utilized for publishing research findings on each of the subjects identified. The different types of publications to be considered are listed in column 2 of 8.1.

8.3 Seminars

In cases where a (+) mark was made in column 4 of table 8.1, record some details about the agency's participation in seminars (workshops, meetings, conferences, symposiums, etc.) The following instructions pertain to the contents of each column in this table.

Columns:

1. COD.: Do not write in this column.
2. Title of the seminar: Record the official designation for the seminar.
3. and 4. Type of seminar: Mark (+) in column 3 if it was a national seminar, or in column 4 if it was international. Consider "international" all seminars held outside of the Dominican Republic, as well as those sponsored by another country but held in the Dominican Republic. See page 36, "Organization of International seminars held in the Dominican Republic".
5. COD.: Do not write in this column.
6. Subject of the seminar: See column 2, on page 27.

9. See No. 5 on page 10 and on the following pages.
10. Staff.

This section is designed to obtain information about the persons employed by the agency during the period 1978-1980. Information is requested for all employees, as described in the instructions for each column of the resulting table. This list may continue on the following three pages.

Columns:

1. Name: Request and record in this column the full name of each of the persons who worked in the agency during the years 1978, 1979 and 1980, regardless of his (her) category, 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. Main responsibility: Record here the person's main duty within the agency, for each of the persons listed in column 1. In the case that a person acquired different duties during the reference period, describe his (her) most recent position.
3. to 5. Mark (+) for each of the years during the period 1978-1980 in which the person was involved in scientific activities: This will identify the persons who worked for the agency. Each column (3, 4, and 5) corresponds to one year. Mark (+) for the years in which the person was involved in scientific and/or technological activities within the agency and (-) for the years in which he (she) was involved in other types of activities, also within the agency.
6. 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.
7. COD.: Do not write in this column, or in columns 8 and 9.

11. See No. 7 on page 14.
12. See No. 8 on page 14.
13. See No. 9 on page 14.

SECTION 3: PROJECTS

This section of the questionnaire contains questions pertaining to projects; the concepts contained therein and the instructions for each question are given below. The questions are described in the order in which they appear in the questionnaire. Follow these instructions as closely as possible, and review the contents of the questionnaire before beginning the interview. All questions should be addressed to the Supervisor.

1. Identification and Location

1.1 See No. 1.1 on page 4 regarding the official title of the agency.

1.2 Is this project part of a particular programme or line of research? A line of research is defined as the activities carried out, within a previously established framework, by the executive institution.

1.3 What is the title of this programme or line of research?

This point is to be included only when the answer to question 1.2 is affirmative. If this is the case, request and record here the official title used to designate the programme or line of research. If the answer to 1.2 was negative, write (-) for this question.

1.4 What are the titles of the projects which comprise this programme or line of research?

This point is relevant only when the answer to question 1.2 is affirmative. If this is the case, request and record here the titles of the research projects which comprise the programme or line of research. If the answer to 1.2 was

negative, write (-).

- 1.5 What is the name of the executive Unit for this project?

Write down the name of the executive Unit, defined as the office or group directly responsible for implementation of the project in question. Write down the Unit's address, following the instructions in point 1.5 on page 5.

2. Implementation Status and Schedule

- 2.1 See columns 2, 3, and 4 on pages 16 and 17.

- 2.2 What part (in percentage) of the project was already carried out by 31 December 1980?

Request an estimate of the percentage of the project's activities which were already carried out at that time. Write down the corresponding figure.

- 2.3 See column 6 on page 17.

- 2.4 See column 7 on page 17.

- 2.4 See column 8 on page 18.

- 2.5 See column 8 on page 18.

- 2.6 See column 9 on page 18.

3. Objectives and Applications

- 3.1 What are the objectives of the programme?

Request a description of the objectives and goals which are to be achieved through implementation of the project in question. Record them in order of importance, beginning with the most important. Also see point 2.2 on page 6.

- 3.2 See point 2.5 on page 6.

- 3.3 What are the potential benefits to be obtained from the results of this project?

Describe, in the greatest detail possible, the types of benefits to be derived from this project. For example:

Increase production of

Decrease consumption of

Improve conditions of

Increase productivity in, etc.

3.4 See column 16 on page 20, except that the name and not the code number should be used.

4. Budget

4.1 What is the total budget for this project?

Record here the total amount of the budget for this project, defined as the total projected expenditure covering implementation of the project from beginning to end, regardless of the amount which had already been spent at the time of the interview.

4.2 What was the total expenditure on the project by 31 December 1980?

Record the amount, in \$DR and cents, which had been spent on the project up to 31 December 1980. This includes expenditures incurred since the project was commenced, as well as the costs of feasibility studies. Record the total amount of this expenditure, even in cases where it exceeds the project's total budget.

4.3 Do you consider the remaining budget sufficient for completing all of the programmed activities and stages of implementation?

This question is answered by marking (+) yes or no, as the case may be. If the answer is negative, go on to question 4.4.

4.4 What would you estimate to be the total amount of the funds required for completing this project?

Note that this question is only included when the answer to question 4.3 is negative, and that the amount in reference corresponds to the funds which would be required for supplementing the budget in order to satisfactorily complete the project.

This does not refer to the amount of the original budget which has not yet been spent. Record the amount in \$DR and cents, in the space provided.

- 4.5 Was the original budget modified in any way during the course of the project's implementation?

Note that the question refers to all modifications of the original budget introduced since the budget was begun, but does not include changes made before the project was initiated. Mark (+) for the corresponding answer. If the answer is yes, go on to question 4.6.

- 4.6 What are the total net changes made in the budget for the project during the course of its implementation?.

Record the amount, in \$DR and cents, corresponding to the algebraic sum of the increases and decreases made in the budget since implementation of the project began. Utilize the corresponding algebraic sign in recording the amount. Note that the NET AMOUNT OF THE CHANGE is required, not the total modified budget. This question is not to be included if the answer to 4.5 was negative.

5. See No. 5 on page 10 and the following pages.

6. Activities by Project Stages

This section requires a brief description of the activities required for each stage of the project. If the space provided for each stage is insufficient for recording the corresponding activities, repeat the stage number on the following table and continue to describe the activities. If the project was comprised of a larger number of stages than those listed on the form, continue the listing on the additional space provided.

Make a check (✓) beside all the activities which were concluded by 31 December 1980 and (+) beside the activities under implementation at present.

7. Co-participation

This section is designed to obtain information on the agencies collaborating in the implementation of the project, as well as the type of collaboration

involved. The resulting table is described as follows:

Columns:

1. COD.: Do not write in this column.
2. COD.: Do not write in this column.
3. Names of the collaborating agencies: Record the name of each of the agencies collaborating in the implementation of the project. First, write down the national agencies, those based in the Dominican Republic, including both public and private organizations. Next record the names of other agencies, under the title "foreign and national". Fill in all the columns corresponding to each agency before writing in the name of another.
- 4 to 6. Type of participation, by items (\$DR): The three columns assigned to this category correspond to the breakdown by items defined for the survey. Note that for each collaborating agency there may be entries in more than one column, or in all three. Record the amounts in \$DR and cents, and mark (-) when there is no entry.

Each item is described below:

4. Donation or grant: This refers to a contribution in cash or in kind (materials, services, consultancies, training, transport, etc.) which need not be reciprocated. Record the amount or value in \$DR and cents, which the agency expects to receive during the course of the project implementation.
5. Loan: This refers to a contribution received, or which will be received, and which must be returned or reciprocated. The contribution may be in cash or in kind (materials, services, consultancies, training, transportation, etc.) Record the amount or value, in \$DR and cents, which the agency expects to receive during the course of the project's implementation.
6. Record the contributions, financial or/and in kind, which do not correspond to any of the above categories. Follow the above rules for recording monetary values.

7 to 11. Type of participation (\$DR): Record here the type of collaboration extended by each of the organizations whose name is registered in column 3 of this table. The sum of the categories listed under this title should be equal to the sum of those recorded in columns 4, 5 and 6. Thus column 4 + column 5 + column 6 = column 7 + column 8 + column 9 + column 10 + column 11, for each collaborating agency. Follow the rules given earlier for recording the values in \$DR and cents, and (-) when there is no entry.

Each of the categories is described below:

7. Technical Aid: This refers to the participation, of specialists or experts in certain aspects of the project, in the implementation of the project as a whole, or in part. This type of collaboration should be evaluated in \$DR and cents, and the corresponding amount recorded for each project in which the agency in question receives collaboration of this type.
8. Scholarships: This refers to collaboration through training of staff assigned to the project, through specialized seminars and classes held within or outside of the Dominican Republic, relating to the subject area dealt with in the project. This form of collaboration should be evaluated in \$DR and cents, and the amount corresponding to the total project implementation period, or to the training period should be recorded in the space provided (record only the larger amount).
9. Materials: This refers to contributions of materials, machinery, equipment, vehicles, etc., that is to say, physical resources. Record their values in \$DR and cents.
10. Cash: This refers to monetary contributions (in cash, cheques, or bank transfers), evaluated in DR currency. Record the amount received or allocated for the entire implementation period.
11. Other: Record the amount corresponding to other forms of participation, which are not covered in any of the above categories. Record the values in \$DR and cents, for the entire implementation period.

8. Staff

This section deals with the staff who participated in the project. This information is requested for all staff levels, as is indicated in the columns of the corresponding table described below:

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.
9. See No. 7 on page 14.
10. See No. 8 on page 14.
11. See No. 9 on page 14.

SECTION 4: SCIENTIFIC AND TECHNICAL STAFF

The reference period to be used in this section covers the years 1978 through 1980. Since this reference period differs from the one utilized in other sections of the questionnaire, Section 4 is to be applied differently in each of the three cases described below:

Case A: Scientific and technical staff who participated in a single project during 1980, regardless of their activities during 1978 and/or 1979. The entire questionnaire form for section 4 is applied in this case.

Case B: Scientific and technical staff who participated in more than

one project during 1980, regardless of their activities during 1978 and/or 1979. In this case, apply section 4 of the questionnaire for each project in which each staff member was involved. However, only the first form should be filled in completely, while in the remaining forms points 1.5 to 1.8 and 6 and 9 are to be left blank.

Case C: Scientific and technical staff who did not participate in any project during 1980, but did participate during 1978 and/or 1979 (one or more projects). In this case, conduct a single interview with each person, applying section 4 of the questionnaire, filling in only 1.1, 1.3 through 1.8; 3.1 through 3.3; 5.1, with reference to the Unit rather than the specific project; and 6 through 10.

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 Unit.

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

1.2 Project.

Record the title of the project which is being implemented by the Unit identified in 1.1.

1.3 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 Unit. (State the name of the Unit recorded in 1.1). Write down the person's full name and continue the interview.

- 1.4 I.D. card No., Serial No.: Write down the serial and card number of the researcher's personal I.D. card. For foreigners, write down the passport number followed by (P).
- 1.5 Sex: Mark (+) male or female.
- 1.6 Date of Birth: Record the interviewee's date of birth (day, month and year).
- 1.7 Nationality: Record the interviewee's nationality (in 1980).
- 1.8 Were you residing in the Dominican Republic during 1980 for the purpose of participating in this project?

Determine whether the person interviewed resided in the country during 1980 for the sole purpose of participating in the project in question. Mark (+) yes or no, as the case may be.

2. Position in the Project

- 2.1 What was the last position you held while working on this project, during 1980?

Write down the last position held by the interviewee while working on the project during 1980.

- 2.2 What was your main duty within this project, during 1980?

In the corresponding space, describe the main duty of the person within the project, during 1980.

- 2.3 To which scientific or technical field of specialization did your work on this project correspond?

Utilize the code given in Appendix A, for recording purposes.

- 2.4 What type of contract or other employment agreement were you offered for the project implementation period during 1980?

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 project's implementation.

- 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 During the time in which you participated in this project, was your contract, designation or assignment made official by the institution carrying out the project?

This question is designed to determine whether the interviewee was involved in the project as part of another agency's collaboration with the project. Mark (+) Yes, if the person was attached to the executive institution and (-) No, if he (she) was attached to a different agency.

2.6 What is the name of the institution to which you were attached through a contract, designation or agreement while working on the project in question during 1980?

Record the name of the institution to which the interviewee was attached while participating in the project during 1980.

2.7 Will (Did) you return to this institution once your work on this project is (was) completed?

This question applies only when the answer to question 2.5 is affirmative, and is designed to determine whether the researcher's assignment to the institution in question was of a permanent nature. Mark (+) yes or no, as the case may be.

2.8 Were you (Will you be) unemployed after terminating your work on this project?

Apply this question only in cases when the answer to question 2.7 is negative, as a means of verifying the answer. Check yes or no, as the case may be.

- 2.9 State the dates corresponding to the periods in which you worked for the agency with which you were involved in this project.

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 Project

- 3.1 How many hours per week did you work in the executive agency, 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 project activities?

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

- 3.3 See 3.3.1 on page 15.

- 3.4 In which of the following project 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 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 project objectives, and design of the hypothesis to be tested. Elaboration of the 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 publication 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. Project Evaluation

- 4.1 On a scale of 1 to 5, 5 being the highest, how would you rate each stage of this project?

This section is designed to obtain an evaluation of the project by each of the scientific and technical staff members who participated in project implementation. Number 1 on the scale represents the lowest rating, and 5 is the highest. It is important to remind the person being interviewed that his (her) answer will be strictly confidential. Note that for each of the stages a space has been left for recording of the corresponding rating. A description of each stage is given in point 3.4 on page 39.

- 4.2 On the scale used in the previous question, how would you rate the project as a whole?

A global evaluation of the project by the interviewee is sought in this question. Record the rating in the corresponding space, and remind the person of the survey's strict confidentiality.

4.3 In your opinion, what were some of the more important drawbacks encountered in each stage of the project?

For each of the stages identified in 4.1, record the major drawbacks encountered during implementation, as stated by the interviewee, for each stage of the project.

5. Remuneration

5.1 What was the amount of your average monthly salary during 1980, while working with the agency in question on this project?

Record the average monthly salary^{2/} received by the person interviewed while working on this project, during 1980. Do not include any additional remuneration obtained by the person for work outside of the project. Take into account only the salary received from the institution which sponsors his (her) participation in the project. Record the amount in \$DR and cents.

5.2 Was your remuneration included in the 1980 project budget? Mark (+) yes or no, accordingly and check the response with the project comptroller.

5.3 What is the name of the institution whose budget covered your salary while you were engaged in project activities during 1980?

Record here the name of the corresponding institution. Check with the institution whether this remuneration was included in its regular budget.

^{2/} For those persons who received the same salary during the entire period, the average is equal to the salary. For those whose salaries changed over the reference period, compute the average in the following manner:

1. Multiply each salary by the number of months in which it was received.
2. Sum the products obtained in 1.
3. Divide the sum obtained in 2. by the number of months during which the person received a salary. The result is the Average.

- 5.4 How much did you receive as additional remuneration for participating in the project?

Record the average monthly amount of any additional remuneration paid in compensation for participation in this project. Where this does not apply, mark (-). Do not include payment of per diem expenses, transportation, and other routine expenses. Record the amount in \$DR and cents.

- 5.5 During how many months did you receive additional remuneration for working on this project during 1980?

Record the number of months in the space provided. In cases where no additional remuneration was received, mark (-).

- 5.6 Was this additional remuneration included in the project budget for 1980?

Mark (+) yes or no, as the case may be. When no additional remuneration was received, mark (-) yes or no. Check the answer with the project comptroller.

- 5.7 What is the name of the institution whose budget included your additional remuneration for participating in this project during 1980?

Record the name of the corresponding institution. When no additional remuneration was received, mark (-).

6. 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. COD.: Do not write in this column.
2. 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.

3. 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.
4. 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.
5. 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.
6. Location of the academic institution: This refers to the country in which the academic institution identified in 5 is located.
7. Duration of studies: Record the month and year in which the interviewee began his (her) studies for his (her) university, graduate or specialization degrees. Follow the instructions detailed in 7.
9. COD.: Do not write in this column.
10. COD.: Do not write in this column.

7. Experience in Research

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:

Column:

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 1980 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 on to 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 executive agency: Record here the name of the agency in charge of implementing the aforementioned project. When more than one agency is involved, record the name of the head agency. 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 aforementioned 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.

8. 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:

Column:

1. Subject covered: Record the title of each one of the subjects covered in the interviewee's publications.
2. Field of specialization: Record the field of specialization to which the subjects listed in 1 correspond. Follow the instructions given in point 16 on page 20.
3. Type of publication: This refers to the nature of the publication (book, bulletin, journal, etc.) used for publishing the aforementioned 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.
8. COD.: Do not write in columns 8 through 11.

9. Academic Activities

9.1 Were you involved in teaching activities at a center for higher education during 1980?

Mark (+) yes or no. See definition of "Center for Higher Education" on pages 12 and 13.

- 9.2 On the average, how many hours per week did you spend on these activities? During how many months?

Record the number of hours/week and the number of months, in the space provided. Keep in mind that the reference period covers only the year 1980. Write (-) if the answer to 9.1 was negative.

- 9.3 Which disciplines within the fields of Science and Technology did you teach during the period specified in 9.2?

Record the names of the disciplines (there may be more than one), according to Appendix B. Write (-) if the answer to 9.1 was negative.

10. See No. 7 on page 14.
11. See No. 8 on page 14.
12. See No. 9 on page 14.

AREA OF APPLICATION

APPENDIX A

- .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 Urbanism and Land Surveying

- .1 Construction of Homes
- .2 Construction, other
- .3 Land Surveying
- .4 Other

- .10 Socio-economic Structure

- .11 Health and Hygiene
 - .1 Public
 - .2 Clinical

- .12 Commerce, Finance, other Services
 - .1 Commerce in Goods (not Real Estate)
 - .2 Finance
 - .3 Other Services

- .13 Basic Skills

- .14 Education
 - .1 Primary and Secondary
 - .2 Higher Education
 - .3 Technical

- .15 Geology and Mining

- .16 Other

"SOURCE" INSTITUTIONS

APPENDIX B

- 1. CENTRAL GOVERNMENT INSTITUTIONS
 - 1. Presidency of the Republic
 - 2. Ministry of Agriculture
 - 3. Ministry of Sports, Physical Education, and Recreation
 - 4. Ministry of Fine Arts and Culture
 - 5. Ministry of Finance
 - 6. Ministry of Defence
 - 7. Ministry of Industry and Commerce
 - 8. Ministry of the Interior and Civil Defence

9. Ministry of Public Works and Communications
10. Ministry of Foreign Affairs
11. Ministry of Public Health and Social Welfare
12. Ministry of Labour
13. Ministry of Tourism

2. DECENTRALIZED GOVERNMENT INSTITUTIONS

1. Dominican Port Authority
2. Agricultural Bank of the Dominican Republic
3. Central Bank of the Dominican Republic
4. National Bank for Housing
5. Reserve Bank of the Dominican Republic
6. Workers Savings Bank
7. Dominican Export Promotion Center
8. State Sugar Council
9. National Population and Family Council
10. Airport Administration Committee
11. Sewerage and Aqueduct Commission (Santiago)
12. Sewerage and Aqueduct Commission (Santo Domingo)
13. Dominican Electricity Corporation
14. Dominican State Enterprise Corporation
15. Corporation for the Development of Hotels and Tourism
16. Industrial Development Corporation
17. "Hatillo" Corporation
18. "Sabana Yegua" Corporation
19. "Sabaneta" Corporation
20. Dominican Red Cross
21. Civil Defence Board
22. National Parks Administration
23. Dominican Agrarian Institute
24. Welfare and Housing Institute
25. Co-operative Credits and Development Corporation
26. Dominican Social Security Institute
27. Price Stabilization Institute
28. National Water and Sewerage Institute

29. National Cotton Institute
30. National Water Resources Institute
31. National Housing Institute
32. Botanical Gardens
33. Municipal League
34. National Lottery
35. Royal Museum
36. Community Development Office
37. National Zoological Park
38. Dominican Radio Television
39. National Malaria Eradication Service
40. Banks Superintendency
41. Insurance Superintendency
42. Municipal Administrations
- 99.

3. PUBLIC CENTERS FOR HIGHER EDUCATION

1. Autonomous University of Santo Domingo
- 2.
- 3.
- 9.

4. STATE ENTERPRISES

1. Atlas Trading Co.
2. Caribbean Motors Co.
3. Barahona Cement Co.
4. Tobacco Manufacturing Co.
5. Dominican Aviation Co.
6. Chocolate Manufacturing Co.
7. Footwear Manufacturing Co.
8. Dominican Motors Co.
9. Salt Distributors
10. "Ambar" Vegetable Oils Manufacturing
11. Dominican Cement Manufacturing
12. Dominican Batteries Manufacturing
13. "Enriquillo" Nails, Wire and Clamps Manufacturing

14. FASACO
15. "El Marino" Hardware
16. Read Hardware
17. Dominico Switzerland Industries
18. "La Altagracia" Spirits Co.
19. Dairy Manufacturing Co.
20. National Glass Co.
21. National Paper Co.
22. National Marble Co.
23. Salt and Gypsum Mining Co.
24. Dominican Milling Co.
25. Dominican Paints Co.
26. Tyre Manufacturing Co.
27. Quisqueya Motor Co.
28. Salt Refining Co.
29. Dominican Textiles Manufacturing
30. San Rafael Co.
31. Building and Real Estate Soc.
32. FA-2 Tannery Co.
- 33.
- 34.
- 35.

5. PRIVATE CENTERS FOR HIGHER EDUCATION

1. Madre y Maestra Catholic University (UCMM)
2. Eastern Central University (UCE)
3. Interamerican University
4. Eugenio Ma. de Hostos University (UNIREHMOS)
5. O and M University
6. Pedro Henriquez Ureña National University (UNPHU)
7. Santiago Technological University (UTESA)
8. Arts-Sciences
9. Center for Technological Studies (CETEC)
10. Santo Domingo Study Center
11. Salesian Agricultural School

12. Agro-chemical School
13. National Broadcasting School
14. Banking Training Institute (INDOBANCA)
15. Higher Studies Institute
16. Institute for Human Development
17. Institute for Professional Training (INFOTEC)
18. Dominican Institute of Journalism
19. Dominican Institute for Publicity and Marketing
20. Dominican Technological Institute
21. Gregg Institute
22. Luis Muñoz Pereira Institute
23. Mahatma Ghandi Institute
24. Santo Domingo Technological Institute (INTEC)
25. Vocational Technical Institute
26. Salesian Technical Institute (ITESA)
27. Institute for Higher Agricultural Education (ISA)
28. Data Processing (C + A) (CECON)
- 43.

6. NATIONAL PRIVATE ENTERPRISES

All enterprises located in the Dominican Republic except those listed in point 4.

7. INTERNATIONAL AGENCIES AND FOREIGN GOVERNMENTS REPRESENTATIONS

All agencies whose members are the official representatives or organizations belonging to one or more foreign governments.

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