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CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH
TECHNICAL ADVISORY COMMITTEE
Seventh Meeting, Rome, 4-8 February, 1974

CARIS PILOT PROJECT
PROGRESS REPORT AS AT 1 JANUARY 1974

(Prepared by A. Thevenin, Pilot Project Coordinator)

TAC SECRETARIAT
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME 1974

WS/E6379

CARIS PILOT PROJECT

Progress Report as at 1 January 1974

(Prepared by A. Thevenin, Pilot Project Coordinator)

A. SUMMARY OF PROGRESS TO DATE

Phase 1 - completed
Phase 2 - completed
Phase 3 - completed
Phase 4 - in progress

B. BACKGROUND

Following the recommendation of the TAC at its second meeting, the Consultative Group on International Agricultural Research agreed on 3 December 1971 to the establishment of a CARIS Pilot Project which has been supported by the countries and institutions quoted in Annexes I and II.

The Pilot Project was initiated in March 1972, when the Coordinator seconded by the French Government joined FAO.

It was planned that the Pilot Project would comprise four phases (partly overlapping):

- Phase 1: Methodology and preparatory operations: basic methodology, system design, classification and indexing standards, programming, coding system, design of questionnaires and input forms to be sent to countries, research stations and FAO field staff through official FAO channels.
- Phase 2: Data collection and checking in the field, supplemented by consultations with developed country donors supporting research activities in the countries being covered.
- Phase 3: Data processing: data preparation, coding and classifying, indexing, translation, editing, transcription, computer processing, directory preparation, printing and distribution.
- Phase 4: Evaluation, through questionnaires and interviews of recipients of the directory, to collect comments and observations on content, form of presentation and usefulness.

1) Phase 1 - Methodology and preparatory operations

The methodology, system design, classification, indexing standards and programming were studied during discussions with:

- Mr. Myers, Director of the Current Research Information System (CRIS) of the USDA, which is in charge of the processing of data concerning agricultural research in USA.
- Mr. Buntrock, of the Information and Documentation Centre of the European Communities. Meetings were held in October and December 1972 in Luxembourg and Brussels in order to study the possible compatibility between CARIS and AGREP, the information system prepared by the European Communities. These contacts will be renewed after the publication of the first AGREP directory.
- Miss K. Wild, from the International Development Research Centre, who has studied the possibilities of processing CARIS information by ILO's ISIS (Integrated Scientific Information System).
- Mr. Hersey, Director of the Smithsonian Science Information Exchange (SSIE) and three experts of that Institution which has extensive experience in processing scientific information and editing directories.
- Mr. de Halleux, Conseiller Scientifique au Centre d'Informatique Appliquée au Développement et à l'Agriculture Tropicale (CIDAT).

Following these interviews and discussions, it was decided that several different methodologies would be employed in order to allow a more complete evaluation of the pilot project.

The SSIE, working only in English, has prepared the English version.

The CRIS has received 300 Research project forms and the Centre d'Information des Communautés Européennes 200.

The CIDAT has received 30 Research project forms.

A methodology different from those preceding was tried in FAO for the preparation of the French version of the directory. A translation in French of the SSIE English version would have presented nothing new, and this translation could only have been begun when the SSIE work had been finished, with consequent delay in the publication of the directories by a further two or three months.

The main differences between these methodologies lie in the systems of indexing research projects.

SSIE indexes by keywords on three levels, with an average of 12 per research project, of which 6 are used for the preparation of the directories.

CIDAT uses also keywords extracted from a thesaurus.

CRIS uses keywords for retrieval and a classification composed of four tables.

The Documentation Centre of the European Communities also uses a classification of four tables similar to that of CRIS.

The methodology prepared and used by FAO for the French version is based on two classification tables and on keywords to clarify and complement the indication given by the classification. This system has been studied as much for the preparation of directories as for retrieval by computer.

2) Phase 2 - Data collecting and checking

Two types of questionnaire form were prepared to be sent to Research Institutions and Stations. That for the description of Research Stations was set up only to complete the data already known on these stations; it would have to be completely modified for a global project. The other is for Research Project descriptions.

The main difference between a Research Information System and a Bibliographic System lies in the fact that all the data for the former must be given by the research workers themselves, and are not to be found in the publications. Moreover, such contributions in CARIS information can only be voluntary.

After July 1972, the Governments of the countries covered by the pilot project were informed of the Project by the Director-General of FAO and their collaboration was solicited.

Questionnaires and related instructions (Annex V) were sent by air mail to the Research Institutions and Stations in the beginning of September 1972.

During November and December 1972, four consultants (two seconded by the French Government and two by FAO) carried out information and advisory missions in West Africa. Their first task was to make known the fact that only one third of the questionnaire forms sent by mail from Rome had been safely received! New questionnaires were sent again by pouch, but it proved impossible to make up for lost time and some arrived too late. It is not yet possible to know whether some were lost on being returned to Rome, but some completed questionnaires arrived so late (August 1973) that it was impossible to use them for the pilot project. These mail difficulties represent about six months' delay.

At the end of May 1973 the Research Organizations had returned 237 Research Station forms and 1,560 Research Project forms (Annex 8).

3) Phase 3 - Data processing

After their arrival in Rome, the forms were checked and sent for translation. Translation from French into English was done in England by translators seconded by the Commonwealth Agricultural Bureaux and paid for by the Overseas Development Administration. Translation from English into French was done in France by

translators seconded by the "Conseil International de la Langue Française" and paid for by the "Agence de Coopération Culturelle et Technique". This translation work was finished early in May 1973.

A contract was signed with SSIE on 30 January 1973 for the preparation of camera-ready copy of that part of the English version of the directory concerning Research project descriptions and the indexes.

All the research project forms in English were returned to Washington before 31 May 1973.

The camera-ready copy was received on 8 October and sent before the end of October for printing to Naples, with the descriptions of Research Institutions and Station prepared by CARIS staff. The English version of the directory was ready on 4 December 1973.

During this time, the CARIS staff at FAO prepared the French version of the directory. The indexing of Research projects was finished in June and the computer processing in September 1973. The material for the French version was sent for printing in Brussels at the beginning of November. The French version directory was ready on 5 December 1973.

In October 1973, the CIDAT had finished some examples of a "Répertoire exemple d'application du Système d'indexation CIDAT au projet CARIS" prepared from thirty research project forms sent in June.

The "Centre d'Information et de Documentation des Communautés Européennes" will include the 200 Research projects sent to them in their AGREP directory which will be published in 1974.

The 300 Research project forms sent to CRIS after indexing by CARIS staff can be used for computer retrieval trials.

4) Phase 4 - Evaluation

The evaluation of the project, which is being funded by the International Development Research Centre, has four components:

- i. Input. To evaluate the efficiency of the methodology used for collecting the data.
- ii. Processing. Evaluation of the efficiency of the systems involved and their compatibility with similar systems.
- iii. Output. To evaluate the usefulness of the records and output and the effectiveness of retrieval methods.
- iv. Future. To recommend possible approaches for the development of the system.

Difficulties have been experienced in getting the timely cooperation of the necessary three consultants, but it is hoped that a preliminary indication of their feelings will be available shortly.

C. FUTURE OF THE PROJECT

Without awaiting the end of the evaluation phase of the pilot project, it is possible to look to the future and to envisage a first approach to a full project, both for the expected services and for its progressive extension to a worldwide scale.

1. Services to Users.

The published directory must be considered only as a very limited example of the possibilities of an operational worldwide CARIS project. The expected information concerns the research institutions and stations, the Research projects and the research workers.

a) Research Institutions and Stations

Their inventory and description could be the object of separate publications: a yearly publication bringing the preceding publications up to date; a complete re-issue every five years. An Index by research activities could be added to these publications.

b) Research Projects

It is possible to envisage several types of services, differing in their presentation and their cost, but using the same data and the same computer programmes.

i. Question and answer service.

Because of the rapid development of information science possibilities, such a service is surely the most interesting for the future. The CARIS system as a whole must be organized in the light of retrieval on request. Other services can be considered as by-products and their importance is likely to decrease in the future. The realization of such a service presents no difficulty, provided that the indexing of the questions follow the same system as that for the indexing of the research projects. The use of a classification table, standardizing the definition of the research "subject areas" or "activities", reduces the personal influence of indexers on the indexing quality and this work can be done by less specialized workers. The creation of a thesaurus for the keywords that must complete these classification tables is essential (this thesaurus must be common to AGRIS and CARIS). The use of coded references as in the classification tables would allow interchange from one language to another without difficulty. It should be possible to decentralize this service by sending copies of the magnetic tapes to some information centres using suitable computers.

Users would receive answers either by mail in the form of computer print-out or by direct reading on a cathode ray tube if such facilities are available. Retrievable data would be those given in the "Research Project Descriptions" part of the directory.

- ii. A Selective Dissemination of Information (SDI) service intended for subscriber users. This service would allow costs to be reduced (by reducing computer time) and would satisfy groups of users interested in the same questions. As in the question and answer service, this SDI could be made in the form of computer print-out.
- iii. Publications similar to the recent directory could be prepared to make known information on research in areas of recent innovation. Updating of the directories could be undertaken at periods of time to be determined.
- iv. Publication of specialized directories giving information on research on a "subject" or an "activity" (cereals, plant protection, animal husbandry, forestry, soils, etc.). Their content should be prepared taking into account the most frequent questions and the needs of subscribers to the SDI service. It could later reduce or replace this service. These publications would only be of interest if they gave to many users a complete account of on-going research in their speciality, and thus only when CARIS had been expanded to a sufficient number of countries to enable the greater and more important part of research in those fields to be covered.
- v. A magnetic tape despatch service could be set up to send the magnetic tapes, with annexed computer programmes, to organizations and countries using suitable computers. These tapes would be used for retrieval and for the preparation of publications of local or regional interest.

The creation of these services implies that all the data concerning research projects would have been recorded in the computer either coded (Research Station, Executive Agency, Scientist Speciality, Climate, Soils and Indexing) or in free text (Scientists names, Project title and Description in the three languages - French, English and Spanish).

It must be possible to process the output by Linotron or similar system to obtain camera-ready copy for printing the publications directly by off-set without costly, slow and error-prone type-setting.

The updating of this documentation must include:

- i) Elimination of terminated research projects. After a final entry in the directories, the collected data and the publications concerning these projects will be kept in the archives. Their coordinates and their indexing will be recorded on file-tapes (archive tapes) to allow retrieval. A coordination with AGRIS must be set up for the classifying of the publications and reports.

- ii) Substitution of the research description parts "Results" and "Approach". A change in the "Objectives" part will lead to the replacement by a new research project. The mark "continuation of No. ..." will follow the title or the description of this new project. The same would be done if a project were subsequently divided into several new projects.
- iii) Admission of the new projects.

c) Research workers

The actual directory gives the names and specialities of research workers or scientists carrying out research on a project. Their addresses may be obtained through the research station where the research is done. Nevertheless, a special inventory of scientists and research workers would be of great interest.

2. CARIS Extension.

The work of maintenance and updating of the CARIS system represents approximately a quarter of the time required to collect and process the data for an initial inventory. It should be possible to set up an operational worldwide CARIS in a period of three years, with a constant annual budget during the period of establishment. The budget could then be reduced to cover only the costs of maintenance and updating.

On the other hand, supply of information being voluntary, the participation of the different countries will only be obtained gradually during this period. The stations and countries, at first reticent, should be progressively included perhaps more rapidly as the extension of CARIS makes it more efficient. For this reason, it would seem to be suitable to start collecting information in areas where agricultural research is the most intensive, in order to be able to disseminate useful and diverse information as early as possible (see CARIS Report of July 1973).

The first half of 1974 could be devoted to the updating and the completion of the information on West Africa. It will prove difficult to carry out this work however as the funds for the financial support of the Pilot Project have been exhausted.

The extension of CARIS to new areas could start in the second half of 1974.

A very rough estimate, for an initial inventory of about 10,000 research projects and 500 research stations (about a third of the world total), would be about \$ 500,000. This work could be achieved in a period of 18 months to two years.

A more precise estimate may be made in July 1974, when the kind of services expected from a worldwide CARIS will be better known as a result of the evaluation teams' enquiries.

CARIS PILOT PROJECT

ANNEXES

To Progress Report
as at 1st January 1974

1. List of sponsors.
2. Budget.
3. Personnel involved with the CARIS Pilot project.
4. Calendar of operations.
5. Forms and instructions.
6. Processing methods.
7. Map - Location of agricultural research institutions and stations in West Africa.
8. Source and volume of data received.

Countries and Organizations contributing
to the CARIS Pilot Project

(Position as on 1st January 1974)

BELGIUM

- 1) Secondment of an Associate Expert for an initial period of 1 year (extended to 2 years) from 1.1.74 \$ 21.250
- 2) Financing in cash 998,650 FB = \$ 24.801.61

CANADA (I.D.R.C.)

- 1) Part-time services of a seconded Consultant for the administration of the evaluation phase
- 2) Financing the evaluation phase for an estimated amount of \$ 18.230

EUROPEAN COMMUNITIES

- 1) Financing the printing of the French version of the Directory \$ 16.800

FAO

- 1) (Office of General Affairs and Information)
Supplying personnel and various material.
- 2) (Human Resources and Institutions Division)
Secondment of two consultants to travel in West Africa during the data collecting phase, valued at \$ 10.910
- 3) (Computer Systems Branch)
Data processing for the preparation of the indexes of the French version, valued at \$ 2.700

FRANCE

- 1) (French Government)
Secondment of an expert to serve as Coordinator for an initial period of 14 months (extended to 33 months) on 1.1.74 232.500 FF = \$ 46.000
- 2) (Secrétariat d'Etat à la Coopération)
Secondment of two consultants to travel in West Africa during the data collecting phase 32.500 FF = \$ 6.500
- 3) (Agence de coopération culturelle et technique et Conseil International de la Langue Française)
Financing the translation from English into French of 636 research project descriptions 15.000 FF = \$ 3.000

UNITED KINGDOM

- 1) (Overseas Development Administration and Commonwealth Agricultural Bureaux)
Financing and doing the translation from French into English of 768 research project descriptions and of 139 research station descriptions \$ 2.100

UNITED STATES

- 1) (U.S.A.I.D.)
Financing in cash \$ 15.000
- 2) (Rockefeller Foundation)
Financing in cash \$ 15.000

CARIS

Breakdown of expenses

(Sums between brackets are not accounted for by Trust Fund 9164)

ANNEX.2
BUDGET

	<u>Total</u>	<u>Accounted</u>
<u>Phase 1 - Methodology and preliminary operations</u>		
SSIE - Study of the project	11,000.00	11,000.00
SSIE - Experts' duty travel	1,836.00	1,836.00
CRIS - Experts' duty travel	676.00	676.00
Other official duty travels	1,664.29	1,664.29
	<u>15,176.29</u>	<u>15,176.29</u>
<u>Phase 2 - Data collection and checking</u>		
Printing Services	269.16	269.16
Consultants	(17,410.00)	
Official duty travels	608.40	608.40
	<u>(18,287.56)</u>	<u>877.56</u>
<u>Phase 3 - Data processing</u>		
- English version		
Translation	(2,100.00)	
SSIE - Computer processing	24,630.05	24,630.05
SSIE - Linotron and photo-composition	2,658.95	2,658.95
Printing	6,952.25	6,952.25
	<u>(36,341.25)</u>	<u>34,241.25</u>
- French version		
Translation	(3,000.00)	
FAO computer processing	(2,700.00)	
Supplies and material	366.02	366.02
Printing	17,310.51	17,310.51
	<u>(25,420.96)</u>	<u>19,720.96</u>
- CRIS Trial		
Personnel Services (Typist)	561.38	561.38
	<u>561.38</u>	<u>561.38</u>
TOTAL PHASE 3	<u>(62,323.59)</u>	<u>54,523.59</u>
<u>(CARIS Staff)</u>		
Coordinator and Associate Expert	(67,250.00)	
<u>TOTAL 1972/73 EXPENDITURE</u>	<u>(163,037.00)</u>	<u>70,577.44</u>

To these expenses it should be necessary to add the uncalculable expenses provided by FAO in the form of typing, stationery, photocopies, etc.

C.A.R.I.S. TRUST FUND 9164

SOURCE OF FUNDS:

Agency for International Development (USA)	\$ 15,000.00
The Rockefeller Foundation (USA)	15,000.00
Belgian Government	24,801.61
TOTAL	<u>54,801.61</u>

In addition an amount of \$16,800 will be paid by the Commission des Communautés Européennes on presentation of an invoice from FAO.

16,800.00

71,601.61

Total Contributions

BREAKDOWN OF EXPENDITURE (as at 31 December 1973)

	1972	1973 Paid	Outstanding Obligations 1973	<u>TOTAL</u>
Personal Services	-	561.38	-	561.38
Official Duty Travel	1,617.36	2,090.83	1,284.93	4,993.12
Printing Services	173.00	96.16	24,262.76	24,531.92
Contractual Services (Contract with Smithsonian Institution)	12,836.00	15,000.00	12,289.00	40,125.00
Supplies and Material	4.64	361.38	-	<u>366.02</u>

TOTAL 1972/73 EXPENDITURE

70,577.44

AVAILABLE BALANCE

\$ 1,024.17^{1/}

^{1/} To be spent for official duty travel purposes within 31 March 1974

CL:smf

cc: DC 1/5 CARIS

Personnel involved with the
CARIS Pilot Project

CARIS Staff

- Mr. A. THEVENIN - Pilot project Coordinator
- Miss C. PAINPARE - Associate Expert

Translators

- Mrs. H. WILLIAMS (French into English)
- ? (English into French)

Consultants

- Mr. C.L. PIERSON
- Mr. St.G. COOPER
- Mr. R. LACOSTE
- Mr. CHABROLIN

and regular staff of the Systems and Projects Development Branch of the Library and Documentation Systems Division in FAO.

Calendar of Operations

- December 1971 - Recommendation of the Consultative Group on International Agricultural Research on the establishment of a CARIS Pilot Project.
- March 1972 - The CARIS Pilot Project Coordinator joins FAO.
- July 1972 - Letter from the FAO Director-General to the Governments of interested countries advising them of the setting-up of CARIS and asking for their cooperation.
- September 1972 - Dispatch of forms and instructions to the research stations and institutions.
- November/December 1972 - Mission of 4 consultants to West Africa.
- January 1973 - Signing of a contract with the Smithsonian Science Information Exchange (SSIE) for the preparation of the English version.
- January/May 1973- Reception of documents - Despatch and return from translation - Forwarding to SSIE.
- May/June 1973 - Indexing of the documents for the French version.
- August 1973 - Computer processing of the data for the French version.
- October 1973 - Receipt of camera-ready copy prepared by SSIE for the English version.
- November/December 1973 - Printing of the Directory - Preparation of the evaluation phase.

Forms and Instructions

Form A - Research Station

Instructions for form A

Form B - Research Project

Instruction for form B

RESEARCH STATION

1. C.A.R.I.S. No.

L1.031.

2. Parent Organization

Firestone Natural Rubber & Latex Company, Akron, Ohio, U.S.A.

3. Executive Agency (Name, Postal Address)

Firestone Plantations Co.
Harbel, Liberia
West Africa

(L1.030)

4. Research Station (Name, Postal & Telegraphic Address - Telephone)

Botanical Research Department
Firestone Plantations Co.
Harbel, Liberia
West Africa
Tele: 2286

5. Staff (Number of)

Scientists

4

Technicians

9

6. Languages

Offic. English

Second. None

7. Longitude

10°25' 11"W

8. Latitude

6°23' 20"N

9. Altitude

100 metres

10. Climate

1121

11. Soils

12. Experimental Fields

Crops		Pastures	Forest	Ponds pisciculture	TOTAL
not irrigated	irrigated				
240 Ha	46 Ha	4 Ha	0 Ha	0 Ha	290 Ha

13. Specialized Equipment

1. Hevea rubber seed collection
2. Botanical Introduction Garden
3. Trace Elements Laboratory
4. Computer (being set up to handle Research data thru central located system for plantation).

14. Training Facilities

Subject, Level of Courses	Duration (weeks)
Subjects taught at University of Liberia to 3rd & 4th yr. students in school of Agr. & Forestry	
1. Botanical Aspects of <u>Hevea brasiliensis</u> .	One week
2. Breeding & Selection	" "
3. Disease & Pests	" "
4. Tapping Systems and Yield Stimulation.	" "

15. Library & Documentation

1800 volumes with specialized card indexes on subjects: Horticulture, Tropical Agric., Rubber, Weed control, Plant Pathology, Soils & Fertilizers, Botany, Biology, various other crops, Plant Breeding Entomology Forestry etc---. Station has no reprographic Equipment.

16. Publications

1. Monthly Summary Report of Research activities
2. Quarterly Report of Research activities
3. Annual Report of Research activities
4. Monthly and Annual Meteorological Reports.

17. Financial Support

\$232,020.00

Government

%

Bilateral

%

Multilateral

%

Private

100 %

18. Director of the Station or person charged with filling the form

Harry W. Hemerling Jr.

Harry W Hemerling Jr
Signature

12-22-72
Date





FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Via delle Terme di Caracalla, 00100-ROME

Cables: FOODAGRI ROME

Telex: 61181 FOODAGRI

Telephone: 5797

C.A.R.I.S

Computerized Agricultural Research Information System

Instructions for form "A"
RESEARCH STATION

General Instructions

Do not fill in the boxes with heavy margins. For the others use a typewriter, or write only in block letters.

1. CARIS No.

- a) Do not fill this box
- b) A reference number given by FAO will permit the identification of the country and the station.

2. Parent Organization

- a) Give the name of the organization.
- b) These organizations do not undertake direct research; they often play an important part in the definition of the goals, and can profit from the research results. They can be owners of the Research Installations or Stations. They can provide working facilities in material or money to Institutions or Agencies in charge of research.

3. Executive Agency

- a) Give the complete name, the postal address and the approved abbreviation.
- b) This agency organizes research in the framework of the programme that it has defined either itself or after agreement with the parent organization. It divides the research and the working facilities between the scientists and the stations.
It supervises the research and centralizes the results, which it generally publishes on its own responsibility.

4. Research Station

- a) Give the complete name, the postal and telegraphic addresses, the telephone number.
- b) "Research Station" must be used in a very broad sense.
It is the point where the Research projects are carried out and where the working facilities (laboratories, experimental fields, library, etc...) exist.
Research Centres, Research Sections, Experimental Farms, Faculty Departments, can be regarded as "Research Stations" if they carry out research.
The distinction between Stations and Substations does not depend upon their size; substations are research bases subordinate to a station which is generally the more important and assumes control of the research. In the case of substation, use the same form and indicate after the name of the substation, the name of the main station in parenthesis. (e.g.: attached to.... Station).

5. Staff

Give only the numbers of scientists (research workers) and technicians.

6. Languages

Give the official language and the secondary languages, i.e. the languages that can be used for correspondence.

7-8 Longitude, latitude

Give them in degrees and minutes preceded by letters E, W, N. or S (e.g.: W-007.15 N-12.20)

9. Altitude

Give the average altitude in metres
(1 foot = 0.30 metre; 1 metre = 3.30 feet)

10. Climate

Do not fill in this box. It will be completed by FAO in accordance with the data that you provide on the "agroclimatic information form", the contents of which will not be published but forwarded to the Agroclimatician of the FAO crop ecology unit, to be used to set up an agroclimatic map and classification.

11. Soils

- a) Do not fill in this box
- b) It will be completed by FAO. Give on the back of the form, in order of importance, the names of the soils occurring in the working area of the station. Do not forget to specify which classification you are using.

12. Experimental fields

Give (in hectares) only the areas that are really used for research work. Specify areas used for crops, pastures, ponds, and give the total.
(1 acre = 0.40 hectare; 1 hectare = 2.5 acres)

13. Specialized equipments

Give in this box only really specialized equipments (trace elements laboratory, electron microscope, computer, collection of cultivars, specified herbarium, etc...) and not that is commonly found in nearly all laboratories and stations.

14. Training and Extension facilities

Give the subjects, level and duration of the courses.

15. Library and Documentation

Give the approximate number of volumes, the existence of specialized card indexes and catalogues and their subjects, and state whether the station has reprographic equipment.

16. Publications

Give the names of periodicals in which articles concerning the station and its research are regularly published. Specify if this documentation is issued by the station itself.

17. Financial Support

Give in the box on the left the annual amount of the station expenditure (specify in which currency). Include in such expenditure the salaries of staff numbered in box 5.
Give in the boxes on the right, the percentage support of the total expenditure received from different financial sources.

18. Name and signature of the Director of the Station or of the person charged with filling the form, and the date.

(If you have not enough forms, ask for new ones or use photocopies)

RESEARCH PROJECT

2. Control No.

72

1. C.A.R.I.S. No.

GH.061.0016

3. Executive Agency

CROPS RESEARCH INSTITUTE

4. Research Station

KWADASO

5. Investigators on this project

Last Name and Initials

Speciality

AMANQUAH, S.I.

AGRONOMIST/PLANT BREEDER

ADJEI, C.C.

TECHNICIAN

6. Climate

1131

8. Network Project



National



International

Responsible Organization

9. Dates

Start

End

m y

MAR. 1967

7. Soils

10. Title of the Project

EFFECTS OF CONDITIONS AND LENGTH OF STORAGE ON THE SEEDLING
EMERGENCE OF Kenaf, Hibiscus, cannabinus, L.

11. Description (Objective, Approach, Progress)

OBJECTIVES:

To determine how long kenaf seeds can remain viable (germinable), when they are stored under the following conditions - atmospheric temperature and humidity, deep freezer, ordinary compartment of a refrigerator, cold room and an air-conditioned room.

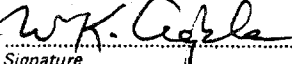
APPROACH :

1. Kenaf seeds stored in sealed polythene bags and kept in the five different conditions will be sampled after certain periods of storage for germination studies.
2. The design will be completely randomised block replicated four times.
3. A seed will be considered emerged as soon as the plumule appears.
4. The data will be presented as total emergence, percentage emergence and rate of emergence.

PROGRESS:

Preliminary results indicate that both length of storage and conditions of storage affect seedling emergence of kenaf. Total percentage emergence and rate of emergence decreased from 74 days to 137 days of storage. While the rate at which percentage emergence decreased with time appeared to be slightly higher in seeds in an air-conditioned room, insect pest infestation was greater in seeds stored at room temperature and humidity.

12. Approved by Director of the station or project leader



Signature

 DIRECTOR
 CROPS RESEARCH INSTITUTE
 KUMASI

Date of Compilation

30/1/73

Indicate on the back of the form data on Soils and on Publications already issued about this project or any problem you have had to fill the form.





FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Via delle Terme di Caracalla, 00100-ROME

Cables: FOODAGRI ROME

Telex: 61181 FOODAGRI

Telephone: 5797

C.A.R.I.S

Computerized Agricultural Research Information System

Instructions for form "B"
RESEARCH PROJECT

Definition of the "Research Project"

By Research Project we mean all the activities involved in providing an answer to a precise and defined problem.

These activities must be coordinated within a scientific and technical framework. Their range must be reduced to the work that can be done by one or more researchers working on a precise subject, even though they may work in different disciplines.

The "Research Project" must not be confused with the "Research Programme", which may embrace several Research Projects utilizing several different methods of approach for solving a problem.

So the Project can be defined by its title, its objective and by its approach. e.g.:

A "Plan" for increasing plant production can be split into very different "Research Programmes":

- 1) Improvement of plant efficiency
 - by selection of local plants,
 - by introduction of foreign plant,
 - by crossing these different plants to produce hybrids.
- 2) Control of the pests limiting production
 - by chemical control,
 - by biological control,
 - by improvement of cultural methods
 - by breeding resistant varieties.
- 3) Improvement of cultural methods
 - Pruning,
 - Castration,
 - Tilling,
 - Use of cover crops.
- 2) Fertilizing, etc...

Each one of these different "Programmes" can be split into "Research Projects" according to the approach, the methods and the composition of the Research Unit.

The level of C.A.R.I.S. information must be such that the "Research Project" is confused neither with the "Programme", nor with detailed activities that are only an aspect or a step of a Project.

The use of the term "Research Project" presupposes that financial support has been accorded to the work for all stages to completion.

General Instructions

Do not fill in the boxes with heavy margins. For the others use a typewriter or write only in block letters.

1) **CARIS No.**

- Do not fill this box
- A reference number given by FAO will permit the identification of the project. Each project will retain same CARIS No. for its duration.

2) **Control No.**

- Give, if there is one, the reference number given to the project by the Station or the Executive Agency.

3) Executive Agency

- Give only the name of this Agency. It can be abbreviated.
- This Agency (Institute, Faculty of a University, Department of a Ministry, etc...) is responsible for the research operations. It divides the research and the working facilities between the scientists and the stations. It supervises the research and centralizes the results, which it generally publishes on its own responsibility.

4) Research Station

- Give the complete name of the station which performs the research, even if it is not carried out on the premises. If the research is carried out at installations of the Executive Agency, write only "idem"

4) Investigators

- In the left part of the box, give the last name and initials of the investigators on this project, the first being that of the responsible investigator.
- In the right part, give the speciality ~~selected from the attached list~~ and in parentheses a possible specialisation. Ex. SMITH H.J. - Botanist (graminaceas).

6) Climate

- Do not fill in this box; it will be completed by FAO.
- The climate will be generally the same as that given in the form A, for the Research Station. If the climatic conditions are different, give the data on an "Agroclimatic Information form", the content of which will not be published but forwarded to the Agroclimaticion of the FAO Crop Ecology Unit, to be used to set up an agroclimatic map and classification.

7) Soils

- Do not fill in this box; it will be completed by FAO.
- Give on the back of the form, in order of importance, the names of the soils where the research is done (Do not forget to specify which classification you are using). For some research no soil data will be needed (e.g. pure laboratory work, general studies on cattle disease, etc...).

8) Network Project

- Indicate with a cross if the network project is in a national or international framework, and give the name of the organization responsible for this project.
- Network projects are projects with same objectives and approach. They are made within the same programme by several station with differing environmental conditions in order to compare the results. A form "B" will be filled by every station where the project is carried out.

9) Dates

- Give the starting date and the expected completion date (reports and conclusions). Each date in two groups of two numbers for month and year. E.g.: 06.72.

10) Title

- It must be as short as possible; one line is best, but in any case it must not exceed two lines. Reserve the details for box 11 (Description - Objective).

11) Description

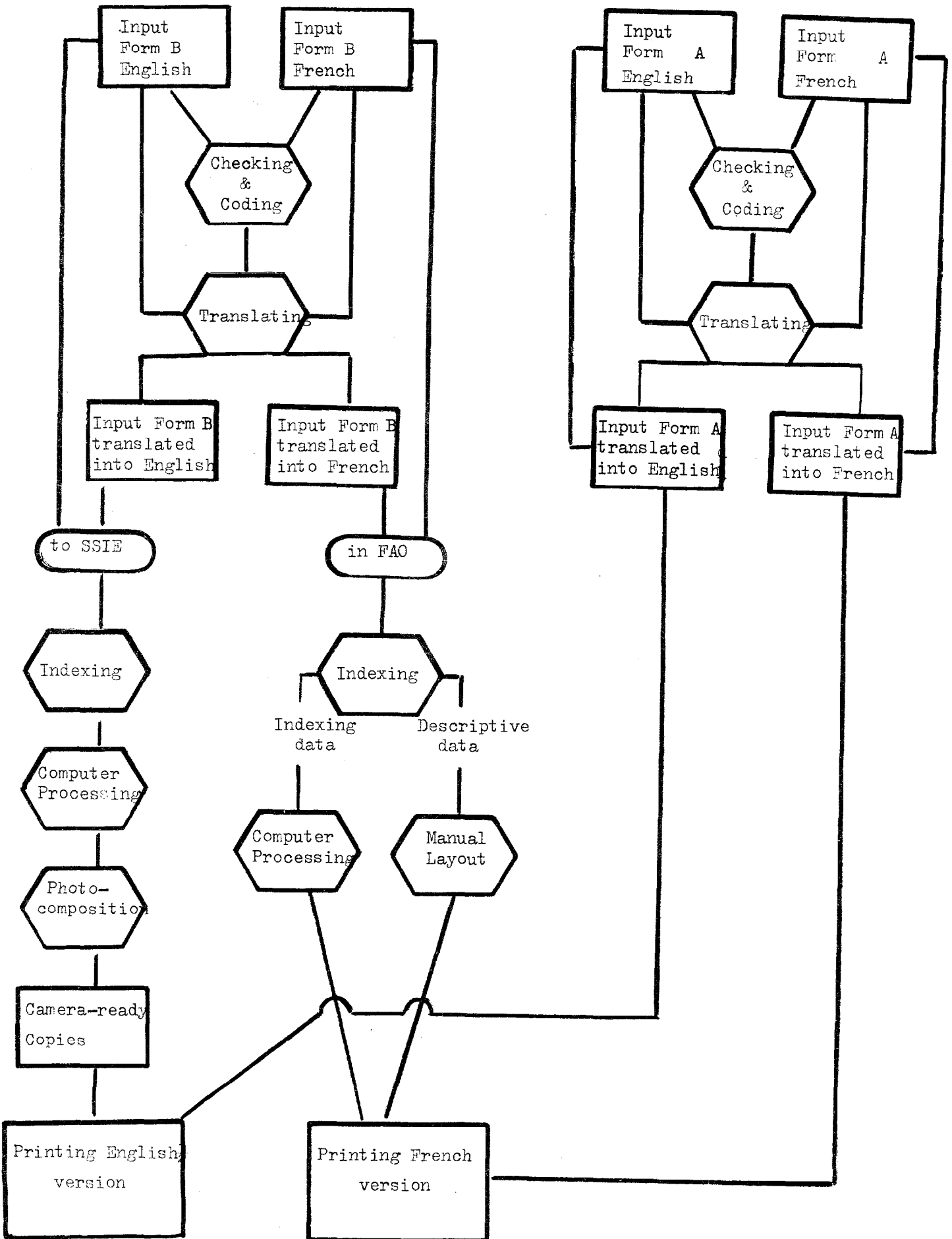
- Split it into three parts, categorised as OBJECTIVE, APPROACH, PROGRESS in capital letters:
 - (a) OBJECTIVE - Give the precise goal of the research.
 - (b) APPROACH - Give the methods and the techniques that will be used.
 - (c) PROGRESS - Give the results already obtained up to the present state of the project.
- This description must not exceed fifteen lines. Without using a telegraphic style, it is recommended that you should use short phrases and avoid words that are not indispensable to an understanding of the text. The compiler must have in mind that this text is not to give a complete description of the work. It should only be a brief summary sufficient to give the reader an indication of its content in relation to other projects (and equally to allow indexing).
- Readers who require further information should address their enquiries to the research station or to the individual workers.

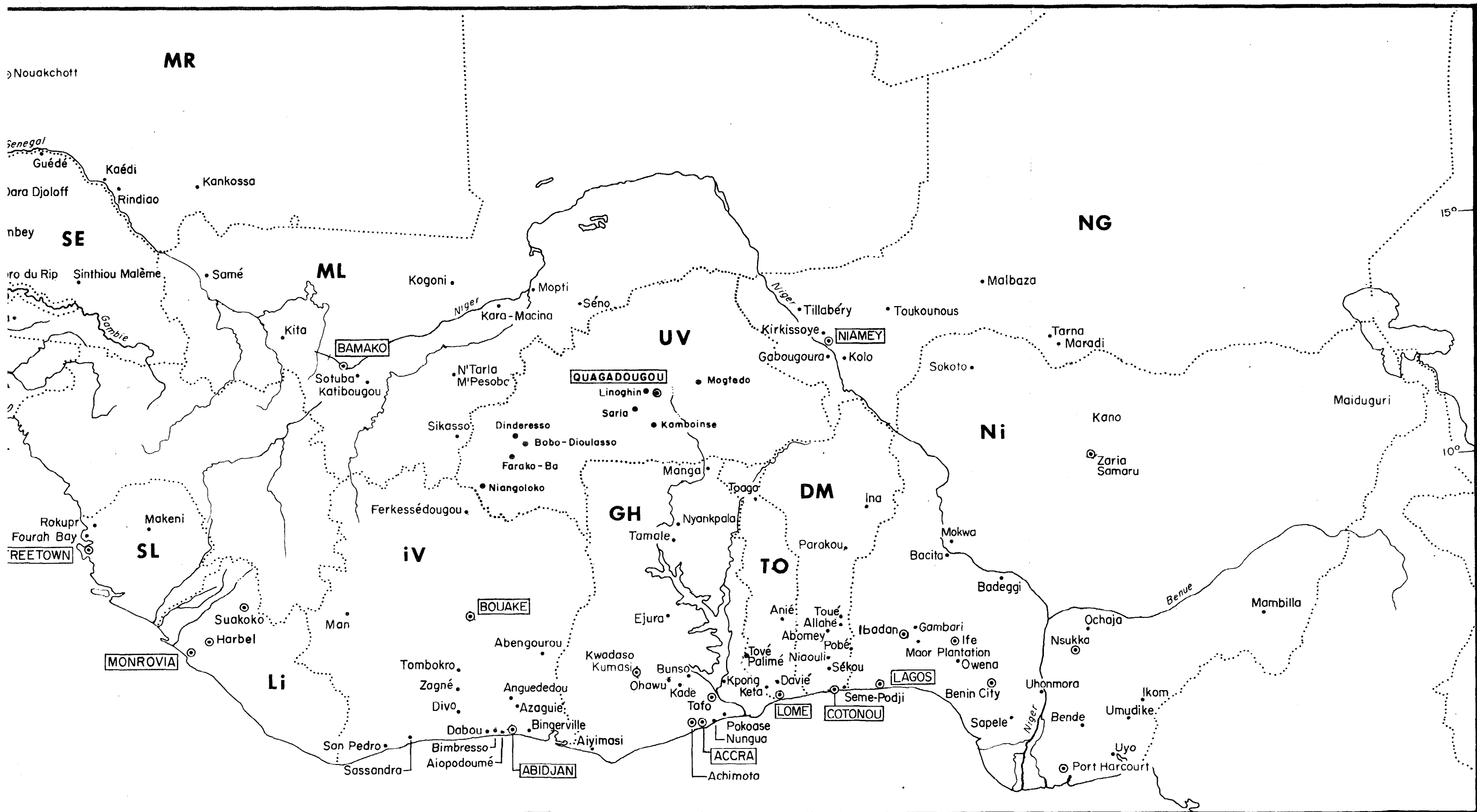
12) Date of Compilation and signature

13) Give on the reverse of the form:

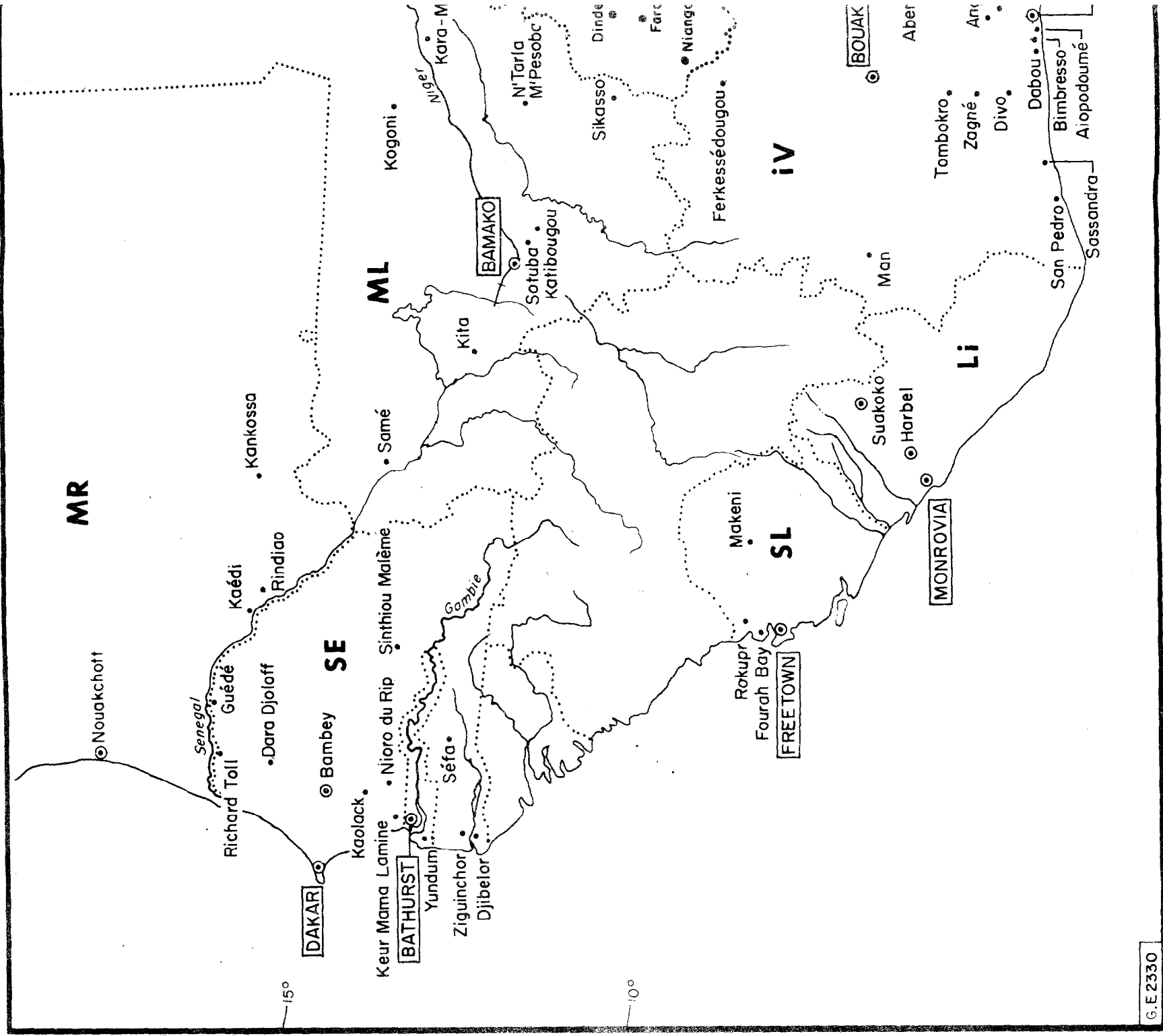
- Information concerning soils, if necessary.
- A list of articles or publications related to the project, that have already been published. Give the name of the author, the name of the publication (periodical or monograph), the volume and part numbers and the date.

(If you have not enough forms, ask for new ones or use photocopies)





LOCALISATION DES CENTRES ET STATIONS DE RECHERCHE AGRONOMIQUE



LOCALISATION DES CENTRI

Source and volume of data received

	<u>Number of processed forms</u>	
	<u>Institutions and Stations</u>	<u>Projects</u>
<u>West African countries</u>		
<u>French-speaking</u>		
Dahomey	17	79
Ivory Coast	34	345
Mali	20	88
Mauritania	5	7
Niger	17	51
Senegal	21	176
Togo	10	55
Upper Volta	15	90
<u>English-speaking</u>		
Gambia	2	8
Ghana	33	238
Liberia	3	24
Nigeria	40	370
Sierra Leone	5	10
<u>Other countries</u>	1	1
<u>Institutions outside West Africa</u>	14	-
	<hr/>	<hr/>
<u>Total</u>	237	1,555