SHARING AGRICULTURAL DOCUMENTATION AND
INFORMATION RESOURCES IN GUYANA
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ACKNOWLEDGEMENTS

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The Consultant is particularly grateful to Mrs. Yvonne V. Stephenson, Librarian of the University of Guyana, for her inestimable help and suggestions in the planning of the different stages of the mission as well as for the provision of the logistical support.

Thanks are due also to Mrs. Olive King, Deputy Librarian, for her assistance in co-ordinating the survey programme and proof-reading the report.

A note of appreciation to Miss Olive Sahai, Assistant Librarian, for her assistance in data/information collection.

The Consultant is indebted also to all the National authorities at administrative, planning and operational levels involved in the agricultural sector, who provided inputs to fulfil the objectives of the mission. A list of these persons is attached as Appendix 4.

The First Draft of this Proposal was presented in February, 1981.

O. Arboleda-Sepúlveda
INTRODUCTION

The UNESCO Consultant was given the tasks of recommending a programme for (1) the development of an Agricultural Information Network in Guyana and (2) the establishment of an Agricultural Documentation Centre, which provides for University students, academic staff, researchers, agricultural officers and practitioners, government officials, policy makers and planners, as well as all other groups of information users of the rural sector in the country.

METHODOLOGY

To achieve the foregoing tasks it was decided, as a first step, to conduct a survey to gather all significant data and information. The Consultant with the assistance of the University of Guyana Library staff, prepared a representative list of institutions involved in agriculture and related activities. This included approximately 35 individuals as sponsors, producers, intermediaries and users of documentation/information (Appendices 1, 4). To facilitate the task of gathering significant data and information a guide with the main topics covered by the survey was used by the interviewer (Appendix 2).

This first mission was devoted to making a proposal for the development of an agricultural information/documentation network in Guyana. The duration of the mission was 17 days - from January 26 to February 11, 1981. As an important input to the survey, a search for significant literature in the field of agricultural documentation was realized, and some 36 references were located. (see Bibliography).

REVIEW OF PAST ACTIVITIES

The authorities of Guyana pursued the creation of the National Science Research Council (NSRC) during the early 1970's, with a view to monitoring the science and technology sector, to ensure communication and compatibility, and to encourage relevant research. According to Act No. 26 of 1974, the NSRC functions were defined, among others, as follows:

- to assist in the formulation of, and to advise the government on a National Science Policy;
- to determine priorities for scientific and technological activities in Guyana;
- to promote research and to ensure the application of the results of scientific and technological activities to the development of agriculture, industry and social welfare in Guyana;
- to collect and disseminate information relating to scientific and technical matters, and to publish reports and papers and hold conferences on scientific and technical matters (20).

Early in 1976 the NSRC gave priority to the "Agricultural Information Storage and Retrieval Project". This project had as its broad objective, the acquisition of all documents pertaining to agricultural research in Guyana, and the storage of the information contained therein in such a way as to make it readily and quickly available to agricultural research workers. In 1978 the NSRC transferred this project to the University of Guyana Library in view of the fact that it had the necessary infrastructure to guarantee its continuity. The University Library then assigned to a professional Librarian the responsibility for the development of that collection in addition to the basic collection in agricultural fields already existing in the University Library. At the present time, the recently established Faculty of Agriculture requires the development of documentation resources for its own needs. This implies the integration of a developing specialized collection for lecturers and students of the Faculty with the existing resources in the University Library.

The Consultant had the opportunity in August 1976 of carrying out in Guyana a technical mission, within the IICA/IDRC Project, to observe the potentialities of the country to organize its own Agricultural documentation and information flow and to integrate it into the AGRIS/AGRINTER systems, as well as to identify the relevant aspects that should be reinforced (2).

In September 1980 a specific proposal was prepared to be submitted by the Ministry of Agriculture to the IDRC, Canada and IICA. The Project is oriented towards creating and maintaining a basic infrastructure in the Central Agricultural Research Station Library, so that it can participate in the information
transfer to the technicians of the Station, the Faculty of Agriculture and other users whose activities are related to research and development of the rural sector (28).

Since 1978 Guyana has been participating through the University Library in the Inter-American Agricultural Information System-AGRINTER/AGRIS. This participation has been through attendance at the 5th and 6th AGRINTER Round Tables, held in Costa Rica, April 1978 and Peru, April 1979, respectively.

In addition, the University Library has maintained links with the AGRIS/AGRINTER System, and continued to function as the National Centre for liaison with AGRIS. This liaison includes the responsibility for submission of locally produced material to the AGRINTER Data Base.

THE EXISTING SITUATION

National Information Policy(*)

The task of formulating proposals for the sectoral development of an agricultural documentation/information network, or sharing activity, was done in the absence of an overall National Information Policy. This factor did not significantly hinder the formulation of the proposals, but care was taken to ensure that there was a built-in flexibility in the relevant areas of the proposal so as to allow for compatibility with the National Information Policy which is now under consideration.

It is noteworthy that during the actual period of undertaking this mission, the Government of Guyana, through its Minister of Information had completed arrangements for the inaugural meeting of the National Commission on Libraries, and related services, which body is charged with the responsibility for recommending to the Government a programme for the overall development of the country's information infrastructure. In a nutshell, the terms of reference of this Commission are as follows:

*stephen, Yvonne. Personal Communication.*
a) To prepare a policy statement outlining the nation's intentions and objectives in regards to a national information system.

b) To prepare a detailed and specific plan for the structuring of a national (information system which should be integrated into the national development) plan, paying particular attention to the following:

i. The identification of subsectors within the system, e.g. Science and Technology, Education, Law, etc. and the proposal of coordinating centres for each subsector.

ii. The identification of areas of rationalization and cooperation between libraries, documentation centres and archives within the above subsectors. Particular attention should be paid to the production of union catalogues of monographs and serials.

iii. The plan should specify the type, level and number of personnel needed to operate the proposed national information system, bearing in mind existing resources. The Commission should also examine training needs and conditions of service, and make recommendations.

iv. The need for legislation to accommodate the implementation or operation of a national information system.

v. The need for and specification of standards in respect of library buildings and equipment. Staffing and procedures, to encourage compatibility and possible integration or amalgamation.

vi. The need for the adoption of appropriate information technology, paying particular regard to cost effectiveness.

vii. A more effective bibliographic control of the national information output. (The national Bibliography produced by the National Library is a good foundation but is not currently able to capture all national publications. Public education and enforcement of legal deposit legislation would assist in this area).

viii. The linking of the national system with international information systems such as AGRIS (Agricultural Information System), MEDLARS (Medical Technical Information Services), etc., which monitor world literature in specialist fields.
ix. The preparation of financial estimates for the implementation and operation of the national information system, distinguishing between locally incurred costs and foreign exchange requirements.

Agricultural Research:

The main producer of agricultural literature in the country, whose economy is heavily dependent on agriculture, is the government. This is easily explained because the agricultural research is borne fully by the state. The research done in Guyana is of a practical nature and geared to provide immediate material support to the productive sector. The future of agricultural research in Guyana is pivotal on the formulation of a national science policy of which agricultural research will be an integral part. This task is being handled by the National Science Research Council, a statutory body on which the relevant disciplines and experts, competent to handle such a responsibility are well represented (11).

In addition to the Divisions of the Ministry of Agriculture shown in Figure 1, the structure of the Agricultural System in the country can be summarized as follows:

Ministry of Agriculture:

Areas of Research: Crops and Soil Sciences (excluding sugar and rice), Livestock Sciences(excluding beef and dairy), Fisheries.

The Guyana Rice Board:

Area of Responsibility: Rice research. This research sub-system is part of a fully integrated unit responsible for production, processing and marketing of the country's total rice production.

The Guyana Sugar Corporation: (GUYSUCO)

Area of Responsibility: Sugar research, which is geared towards the improvement of production and productivity. Some areas such as agro-industry and diversification into other products are being studied e.g. oil palm, cowpeas, onions, corn, cassava, etc.
The Livestock Development Company:

Area of Responsibility: Beef and Dairy Industries, pasture management and improvement, mixed swards and supplemental feeding.

The Hydro-Meteorological Unit, Ministry of Works:

Some areas of research: Agro-meteorology and the effects of water on the growth of selected crops.

The University of Guyana:

Some areas of research: Biological Sciences, primarily as post-graduate research projects in the fields of entomology, plant pathology and plant physiology. This has been done mainly by the Faculty of Natural Sciences. The newly established Faculty of Agriculture will be involved in agricultural research in the near future.

Production of Agricultural Documents:

In addition to the results of the interviews with the sponsors, producers and users of agricultural documentation, an analysis of the "Bibliography of Agricultural Research in Guyana" (22) was made, in order to complement the findings of the survey. In this respect it has to be recognized that important efforts have been made to locate and prepare special bibliographies in the field of agriculture and related topics (8, 10, 14, 16, 17, 22). But these have been isolated efforts, far removed from a systematic mechanism for recording the information produced. So far, the main efforts have been applied to compile retrospective bibliographies, but no effort whatsoever has been made to establish a mechanism to control the current and future flow of information in the field of agriculture. In the case of Guyana, it is not a new fact that for the most part, the documents are of the non-conventional, difficult-to-get type of material. Some colleagues such as Benjamin, Collins, King, Knee (3,9, 18, 20) recently experimented and revealed how difficult it is to locate and have access to this type of "invisible" material, because it is produced in a very limited quantity, not properly distributed through regular or commercial channels. Its existence is known to a few who keep them in their own offices or homes and when known is largely inaccessible. To illustrate this
problem, the NSRC-Agricultural Information Project (19, 20) took almost two years to compile 1059 bibliographic references of agricultural research literature in Guyana (1920-1977). Only 28 percent could have been located through standard abstracting and indexing services, because they were published in well known National and International Journals and some were proceedings of International meetings. The remaining 72% belongs to the type of non-conventional, difficult-to-get material already described. In spite of the efforts and resources invested in this NSRC project, some interviewers considered that this compilation is far from complete. Analysing the 57 years covered by the NSRC Agricultural Bibliography, it shows the following data:

- 300 bibliographic references out of 1059 (28%) were published outside of Guyana.
- at the present time, the national agricultural or agriculturally related journals are suspended.
  - Agricultural Research, Guyana 1967 - Latest issue 1976
  - Farm Journal of Guyana 1936 - Latest issue 1968
  - Guyana Journal of Science 1972 - Latest issue 1977
  - Timehri 1882 - Latest issue 1975

Figure 2 shows the production performance of the Guyanese agricultural literature. It is necessary to note that these data do not include forest sciences. The figure is the result of the analysis of 591 references produced during the last 15 years covered by the NSRC bibliography. The average production during this period was 39.4 references per year. The figure shows also the fluctuations in production due, probably, to emphasis of official policy in certain lines of research in some years or to the result of bilateral or international research projects. Assuming that this NSRC Bibliography registers only 50 percent of the actual literature produced, it is clear that an average of 80 references per year is not very high and should not be difficult to control within the frame of a national agricultural information network. Table 1 shows the emphasis of the literature recorded on special subjects such as:

<table>
<thead>
<tr>
<th>Subject</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Science</td>
<td>22</td>
</tr>
<tr>
<td>Economic development/Rural Sociology</td>
<td>17</td>
</tr>
<tr>
<td>Protection of plants and stored products</td>
<td>11.3</td>
</tr>
</tbody>
</table>
FIG. 2 PERFORMANCE OF THE PRODUCTION OF AGRICULTURAL RESEARCH LITERATURE IN GUYANA.
Plant production 9.6%
Animal production 8.3%
Plant Ecology 7.2%

In addition, Table 1 points out subjects that are poorly covered or non-existant such as:
- Pollution
- Human Nutrition
- Geography and History
- Administration and Legislation
- Plant Breeding
- Plant Physiology
- Aquatic Sciences and Fisheries

Not shown in Table 1 are subjects that are particularly poorly covered such as:
- Animal Breeding
- Veterinary Medicine
- Agricultural Education

TABLE 2 intends to show the production indexes as well as the existing gaps with regards to the literature on commodities as follows:

Sugar and starch crops 18.9%
Cereals 14.4%
Domesticated Mammals 8.1%
Oil Crops 5.9%

Among the poorly covered commodities are:
- Temperate berry fruits
- Green and leafy vegetables
- Cover crops
- Bulbous vegetables
- Drug plants
- Domesticated birds
- Insects
FIGURE 1: The Organizational Chart of the Department of Agriculture  
(in relation to other departments in the Ministry)

MINISTER OF AGRICULTURE

PERMANENT SECRETARY

DEPARTMENT OF HYDRAULICS  DEPARTMENT OF AGRICULTURE  DEPARTMENT OF LANDS

CHIEF HYDRAULICS OFFICER  CHIEF AGRICULTURAL OFFICER  CHIEF LAND DEVELOPMENT OFFICER

DEPUTY CHIEF AGRICULTURAL OFFICER

FISHERIES DIVISION  SOILS SCIENCE DIVISION  CROP SCIENCE DIVISION  VETERINARY AND LIVESTOCK SCIENCE DIVISION  RESOURCE DEVELOPMENT AND PLANNING DIVISION  EXTENSION AND EDUCATION DIVISION

NB: This Agency has recently been reorganized but the new organogram is not yet available.
FIGURE 1: The Organizational Chart of the Department of Agriculture
(in relation to other departments in the Ministry)

MINISTER OF AGRICULTURE

PERMANENT SECRETARY

DEPARTMENT OF HYDRAULICS

DEPARTMENT OF AGRICULTURE

DEPARTMENT OF LANDS

CHIEF HYDRAULICS OFFICER

CHIEF AGRICULTURAL OFFICER

CHIEF LAND DEVELOPMENT OFFICER

DEPUTY CHIEF AGRICULTURAL OFFICER

FISHERIES DIVISION

SOILS SCIENCE DIVISION

CROP SCIENCE DIVISION

VETERINARY AND LIVESTOCK SCIENCE DIVISION

RESOURCE DEVELOPMENT AND PLANNING DIVISION

EXTENSION AND EDUCATION DIVISION

NB: This Agency has recently been reorganized but the new organogram is not yet available.
<table>
<thead>
<tr>
<th>Subject</th>
<th>References</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A00 Agriculture - General</td>
<td>43</td>
<td>4.06</td>
</tr>
<tr>
<td>B00 Geography and History</td>
<td>6</td>
<td>0.56</td>
</tr>
<tr>
<td>C00 Education, Extension, Advisory Work</td>
<td>16</td>
<td>1.51</td>
</tr>
<tr>
<td>D00 Administration and Legislation</td>
<td>15</td>
<td>1.41</td>
</tr>
<tr>
<td>E00 Economics, Development and Rural Sociology</td>
<td>180</td>
<td>16.99</td>
</tr>
<tr>
<td>F00 Plant Production - General</td>
<td>102</td>
<td>9.63</td>
</tr>
<tr>
<td>F20 Soil Science</td>
<td>231</td>
<td>21.81</td>
</tr>
<tr>
<td>F30 Plant Breeding</td>
<td>14</td>
<td>1.32</td>
</tr>
<tr>
<td>F40 Plant Ecology</td>
<td>76</td>
<td>7.17</td>
</tr>
<tr>
<td>F60 Plant Physiology and Biochemistry</td>
<td>16</td>
<td>1.51</td>
</tr>
<tr>
<td>H00 Protection of Plants and Stored Products</td>
<td>120</td>
<td>11.33</td>
</tr>
<tr>
<td>L00 Animal Production</td>
<td>88</td>
<td>8.30</td>
</tr>
<tr>
<td>M00 Aquatic Sciences and Fisheries</td>
<td>19</td>
<td>1.79</td>
</tr>
<tr>
<td>N00 Machinery and Buildings</td>
<td>33</td>
<td>3.11</td>
</tr>
<tr>
<td>P00 Natural Resources</td>
<td>46</td>
<td>4.34</td>
</tr>
<tr>
<td>Q00 Food Science</td>
<td>37</td>
<td>3.49</td>
</tr>
<tr>
<td>S00 Human Nutrition</td>
<td>5</td>
<td>0.47</td>
</tr>
<tr>
<td>T00 Pollution</td>
<td>1</td>
<td>0.09</td>
</tr>
<tr>
<td>W00 Auxiliary Disciplines</td>
<td>11</td>
<td>1.03</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1059</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
### TABLE 2: DISTRIBUTION OF THE LITERATURE BY COMMODITIES (AGRIS Codes)

<table>
<thead>
<tr>
<th>Code</th>
<th>Category</th>
<th>References</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0100</td>
<td>Cereals</td>
<td>152</td>
<td>14.35</td>
</tr>
<tr>
<td>0200</td>
<td>Sugar and Starch Crops</td>
<td>200</td>
<td>18.88</td>
</tr>
<tr>
<td>0300</td>
<td>Oil Crops</td>
<td>62</td>
<td>5.85</td>
</tr>
<tr>
<td>0400</td>
<td>Fibre Plants</td>
<td>18</td>
<td>1.69</td>
</tr>
<tr>
<td>0900</td>
<td>Temperate Berries</td>
<td>1</td>
<td>0.09</td>
</tr>
<tr>
<td>1000</td>
<td>Citrus Fruits</td>
<td>8</td>
<td>0.75</td>
</tr>
<tr>
<td>1100</td>
<td>Tropical Fruits</td>
<td>12</td>
<td>1.13</td>
</tr>
<tr>
<td>1300</td>
<td>Vegetables</td>
<td>8</td>
<td>0.75</td>
</tr>
<tr>
<td>1400</td>
<td>Leguminous Grains and Vegetables</td>
<td>11</td>
<td>1.04</td>
</tr>
<tr>
<td>1500</td>
<td>Root Vegetables</td>
<td>17</td>
<td>1.60</td>
</tr>
<tr>
<td>1600</td>
<td>Green and Leafy Vegetables</td>
<td>1</td>
<td>0.09</td>
</tr>
<tr>
<td>1700</td>
<td>Bulbous Vegetables</td>
<td>6</td>
<td>0.56</td>
</tr>
<tr>
<td>1900</td>
<td>Pastures and Feed Crops</td>
<td>23</td>
<td>2.17</td>
</tr>
<tr>
<td>2000</td>
<td>Cover Crops</td>
<td>1</td>
<td>0.09</td>
</tr>
<tr>
<td>2100</td>
<td>Stimulant Crops</td>
<td>9</td>
<td>0.85</td>
</tr>
<tr>
<td>2700</td>
<td>Drug Plants</td>
<td>4</td>
<td>0.38</td>
</tr>
<tr>
<td>5000</td>
<td>Domesticated Mammals</td>
<td>86</td>
<td>8.12</td>
</tr>
<tr>
<td>6000</td>
<td>Domesticated Birds</td>
<td>7</td>
<td>0.66</td>
</tr>
<tr>
<td>7000</td>
<td>Insects</td>
<td>7</td>
<td>0.66</td>
</tr>
<tr>
<td>8000</td>
<td>Aquatic Animals</td>
<td>8</td>
<td>0.75</td>
</tr>
<tr>
<td>9000</td>
<td>Foods</td>
<td>27</td>
<td>2.54</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>391</td>
<td>36.92</td>
</tr>
</tbody>
</table>

Total references: 1059, 100.00%
One of the most common complaints during the survey was the lack of institutional policies to publish, as well as the absence of any kind of incentives to put into printed form, the results of experimentation and research. In addition to this negative situation, another problem arose for some institutions interested in doing research or experimentation, trying to diversify their lines of production, or initiate a specific project. For them it is very difficult to do that type of activity because they "just do not know what has been done in the country". A complement to this problematic area is that they do not rely on the collections of their own institutions. Therefore, they prefer to do their own bibliographic research and subscribe directly to the journals and abstracting services of their interest.

A tentative list of potential agricultural information producers in Guyana is presented in Appendix 1.

**Documentary Resources:**

The main findings of the survey in this respect can be deduced from Table 3 as follows:

- There is not a very old tradition in establishing and using agricultural libraries. The oldest one is approximately 25 years old; the others have had a very short period of active service.

- With the exception of two or three, the libraries are in a low stage of development and the majority of collections are not up-to-date.

- The budget, in general terms, is inadequate for the needs of a research library. In addition, there are some problems regarding transactions in foreign currency.

- There is unnecessary duplication of journal titles, especially in the "working collections". These are, for the time being, justified owing to the lack of communication between institutions and the absence of mechanisms for coordinated acquisitions at the national level.
<table>
<thead>
<tr>
<th>Documentation Unit Code</th>
<th>Starting Date</th>
<th>Book Vols.</th>
<th>Current Periodicals</th>
<th>Indexing Services</th>
<th>Classification Scheme</th>
<th>Specialized Services</th>
<th>Manpower</th>
<th>Co-Operative Documentation Projects</th>
<th>Users**</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1970</td>
<td>6,000</td>
<td>50</td>
<td>5</td>
<td>UDC</td>
<td>A B C</td>
<td>2</td>
<td>3</td>
<td>ULS</td>
</tr>
<tr>
<td>02</td>
<td>-</td>
<td>3,700</td>
<td>22</td>
<td>3</td>
<td>Oxford</td>
<td>- - -</td>
<td>- 1</td>
<td>only</td>
<td>FB</td>
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<td>03</td>
<td>1954</td>
<td>14,000</td>
<td>78</td>
<td>7</td>
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<td>1966</td>
<td>2,500</td>
<td>20</td>
<td>-</td>
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<td>- 2</td>
<td>-</td>
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<td>15</td>
<td>2</td>
<td>-</td>
<td>A -</td>
<td>- 1</td>
<td>-</td>
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<tr>
<td>11</td>
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<td>- 1</td>
<td>ULS</td>
<td>50</td>
</tr>
<tr>
<td>12</td>
<td>1963</td>
<td>110,000</td>
<td>120*</td>
<td>25*</td>
<td>LC</td>
<td>A - C</td>
<td>13 52</td>
<td>ULS</td>
<td>AGRT CRB 100*</td>
</tr>
</tbody>
</table>

* Agriculture Only
**ST - Students
**AR - AGRINTER/AGRIS
**RS - Researchers
**CR - Caribbean Regional Bibliography
**FB - Forestry Bibliography
**ULS - Union List of Serials
A Research Library ought to have a minimum of printed abstracting and indexing services, and make them available to the users. This is justified by extensive use by both agricultural specialists and librarians of the facilities. But it has been noted that a great number of users do not know how to use these tools which, by the way, are very expensive.

In the case of technical processing of documents, it has been noted that either some collections are not classified or a diversity of classification schemes are used. This is not a real problem now, but could cause in the future, some problems of co-ordination, production and utilization of centralized catalogues or union lists.

Table 4 shows that the present libraries put excessive emphasis on the input and very limited resources, time and effort in the output. Very few offer photocopying services, less in alerting services and bibliographies and almost none in Selective Dissemination of Information (SDI).

Only two or three libraries have a reasonable number of both professional and auxiliary staff. There are many reasons for this situation, among the more tangible being that library work image is low in comparison to other careers; there is no library school in the country; salaries, promotional prospects, and general working conditions are not very attractive, and there is no clear definition of library positions and designations.

The problems derived from libraries working in isolation are countless. That is why the involvement of the Guyana Library Association is invaluable in elaborating cooperative tools such as the "Guide to library services in Guyana" and the "Union list of serials in Science and Technology".

The users registered by the libraries surveyed show a low amount of really active users. This is probably due to the fact that the services offered are considered few and poor; potential users are not familiar with the libraries, or they do not rely on the present library system. An intensive work of promotion, motivation and orientation is necessary to convert the potential to active information users.
As shown in Table 4, a significant number of units surveyed are not really libraries as such, but "Working collections" either of individuals or official Divisions or Units that are not interested or do not have sufficient resources to maintain an organized library, or to hire a professional librarian.

PROPOSAL FOR ESTABLISHING AN AGRICULTURAL INFORMATION NETWORK

Justification and Definition:

The existing situation described in the foregoing chapter of this report may gear the national authorities at high level of decision making, as well as the operational level, to make the provisions necessary to establish a National Agricultural Documentation/Information Network, with the summary of benefits as shown in Table 5.

What is a Network of Agricultural Documentation/Information for Guyana?

A network is a National System of coordinated information units and resources available in the country, with the capability of channelling relevant information to specific categories of users to meet their specific needs and to support their demands.

The Network deals with any type of information, printed or not, including books, journals, articles, reports (published and unpublished), theses, audiovisuals, facts, figures, statistics, specialists' brains, etc.

A network is not necessarily an enormous, sophisticated documentation centre to solve all the queries of the national users. It is not a chain of costly and complicated computer facilities dispersed in the country. A certain degree of automation is needed at a determined stage of development, but computers are not indispensable in the definition of a national information network.

How a National agricultural information network operates in the context of a National information system.

There is no unique mode of operation capable of being adopted by all countries. By the same token, it is not always necessary to wait until the
### STATISTICAL SUMMARY OF SURVEY DATA

#### TABLE 4. AGRICULTURAL AND RELATED INSTITUTIONS

<table>
<thead>
<tr>
<th>Type of Institution</th>
<th>Documentation Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Library</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
</tr>
<tr>
<td>Agro-Industry</td>
<td>1</td>
</tr>
<tr>
<td>Museum</td>
<td>-</td>
</tr>
<tr>
<td>Research Institutes</td>
<td>-</td>
</tr>
<tr>
<td>Ministry Departments</td>
<td>4</td>
</tr>
<tr>
<td>Technical Cooperation</td>
<td></td>
</tr>
<tr>
<td>- Government</td>
<td>1</td>
</tr>
<tr>
<td>- Regional Organization</td>
<td>-</td>
</tr>
<tr>
<td>Commerce and Marketing</td>
<td></td>
</tr>
<tr>
<td>- Government</td>
<td>-</td>
</tr>
<tr>
<td>- Regional Organization</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 10 9
<table>
<thead>
<tr>
<th><strong>BENEFITS</strong></th>
<th><strong>IMPACT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Easy and rapid access to the appropriate bit of information at the precise moment</td>
<td>BIBLIOGRAPHIC EXPANSION</td>
</tr>
<tr>
<td>2. Control of information flow is systematized in the different phases of generation, procurement, processing, storage and dissemination</td>
<td>POLICYMAKERS, AUTHORITIES, LIBRARIANS, DOCUMENTALISTS</td>
</tr>
<tr>
<td>3. Specific users will be defined and appropriate services designed to meet their needs for information</td>
<td></td>
</tr>
<tr>
<td>4. Information/documentation services will keep users up-to-date instead of the users having to waste time searching for information in an unorganized flow of documents</td>
<td></td>
</tr>
<tr>
<td>5. Money will be saved or better utilized by involving producers of information in an information network</td>
<td></td>
</tr>
<tr>
<td>6. System tools (union lists, guides, directories, manuals, etc.) will be prepared to facilitate the location and access to documentation resources inside or outside the country</td>
<td></td>
</tr>
<tr>
<td>7. Sharing of documentation resources avoids duplication of efforts in the processing, storage and use of information</td>
<td></td>
</tr>
<tr>
<td>8. Information resources will not be limited to just printed material but will cover nonprint, audiovisual, facts and data, statistics and new ideas and knowledge of scholars and experts</td>
<td></td>
</tr>
<tr>
<td>9. Japanese agricultural information will be merged with that of the region and the rest of the world, through international systems such as AGRIS, AGIS and other specialized information systems. In this way magnetic tapes and by-products will be easily accessible and utilized</td>
<td></td>
</tr>
<tr>
<td>10. Systematized methodology and procedures for handling and dissemination of information will be applied</td>
<td></td>
</tr>
<tr>
<td>11. Quality of research methodology will be improved and time of research projects be reduced</td>
<td></td>
</tr>
<tr>
<td>12. Research previously done or costly repetition of research in progress in the country or in the region will be avoided</td>
<td></td>
</tr>
<tr>
<td>13. The necessary merger of libraries well organized in the country will be maintained and working as a team in a cooperative way</td>
<td></td>
</tr>
<tr>
<td>14. Disintermediation of isolated individual or institutional &quot;working collections&quot; will be discontinued</td>
<td></td>
</tr>
<tr>
<td>15. Computer facilities and equipment existing in the country will be efficiently utilized by the network</td>
<td></td>
</tr>
<tr>
<td>16. Efficient utilization of quality documentation/information resources within or outside the country will be made</td>
<td></td>
</tr>
<tr>
<td>17. Appropriate training/orientation will be provided to both users and intermediaries of documentation/information resources</td>
<td></td>
</tr>
</tbody>
</table>

**JURISACTION OF JAMAICA in general as well as coming generations will benefit from the information network.**
coordinating body, the National information system, is formally operating to establish the sectoral information networks.

The general scheme in Figure 3 serves to illustrate how the agricultural sectoral network should fit into the national information system, and how it is connected with regional and international information systems (1,2,6,9, 12,20,25,26,28,34). Figure 3 also shows in dotted lines how the coordinating unit is functionally linked through documentation units of national institutions involved in agricultural activities. This is a relation of operation and coordination and not one of dependence.

The network proposed should be formed by a number of libraries and documentation units as a result of their common requirements for offering services to a specialized constituency and giving access to documentation resources concentrating on agriculture and related fields (natural resources, forestry, livestock, veterinary sciences, rural sociology, agricultural economics, etc.). (See list of libraries surveyed in Appendix 3).

Participation and cooperation is based on contractual agreements among the institutions which call for commitments from each participant to the network as a whole. The following are some of the commitments:

- to make its documentary resources available to users served by other libraries in the network.

- to pay, on a proportionate basis, for the establishment and maintenance of systems tools, such as: Union lists of serials, union catalogue of books, authority lists of institutions, guides, directories, etc. The costs-sharing basis could be in cash or in kind.

- To contribute to the rational development of a "common collection" with particular emphasis on agriculture and related fields of interest for the rural sector.

- to participate actively in training and orientation programmes for both users and librarians.
FIG. 3. NATIONAL AGRICULTURAL INFORMATION/DOCUMENTATION NETWORK

Integration at National Level
- National Information System
- Scientific and Technical Information System
- Biomedical Information Network
- Other Specialized Information Services and Centres

International Co-operation
- Regional Projects and Information Services
- Inter-American and Caribbean (AGRINTER)
- International (AGRIS, CARIS)

Agricultural Network Coordinating Unit

Documentation and Information Services

Libraries and Documentation Units of the Ministry of Agriculture
- Fisheries Division
- Soil Science Division
- Crop Science Division
- Veterinary and Livestock Science Division
- Resource Development and Planning Division
- Extension and Education Division
- Agricultural Research Stations

Libraries and Documentation Units of Statutory Agricultural Institutions
- Guyana Sugar Corporation
- Guyana Rice Board
- Livestock Development Company
- Others

Institutions/Programmes in Agricultural Education
- Agro Industry
- Learned Societies
- Agricultural Economics, Marketing, Statistics
- to cooperate with particular emphasis on the identification of literature produced in the country and elaborate the input for the national agricultural bibliography.

In this proposed network, the individual participant library will maintain its identity and responsibility to its own constituency. In particular, each library remains responsible for selecting, acquiring, and processing to meet its special needs. The benefits to participant libraries and their users have been stated in Table 5.

Duration of the Project Proposal:

This proposal has been estimated to cover the fundamentals of establishing the agricultural information network of Guyana in a period of 24 months. Once these first recommendations, or at least the basic ones, have been accomplished it is necessary to provide continuity and implementation. At present, it is impossible or at least very difficult to foresee the feasibility of realizing other important network responsibilities and activities. This is due to the fact that many relevant decisions have to be made at the highest level, not only at the coordinating centre but at other important components such as the Ministry of Agriculture. It is suggested that during this first phase of the establishment of the network, after 24 months or at mid-term, an evaluation be made as additional projects, activities or adjustments to the present proposal may be necessary.

Specific recommendations and activities:

The recommendations and activities are suggested according to the necessities of a preliminary organizational/promotional phase, trying to be as realistic as possible. The mid-term evaluation that is suggested should provide the basis for adjustments and acceleration or anticipation of projects not included in the present proposal.

A pre-requisite for the planning and implementation of the agricultural information network is that component units must attain a minimum level of organization and operation.
FIG 4. MAIN FUNCTIONS OF THE CENTRE

AGRICULTURAL DOCUMENTATION CENTRE

Technical Services
- Collections Development
- Technical processing
- Indexing
- Abstracting
- Translations
- Storage
- Retrieval

User Services
- Document procurement
- Bibliographic Searches
  - current
  - retrospective
  - anticipated
- User studies
- Promotion
- Users training
- Marketing of services and products

Reprographic Services
- Current awareness
- Content pages
- S.D.I.
- Short Bibliographies
- Extensive Bibliographies
- Duplication, photocopies
- Printing
- Microforms

Network Coordination
- Cooperative projects
- Union List of serials
- Union Catalogue
- National Agricultural Index
- Training
- Interlibrary Loan
- Technical Meetings
- Strengthening Collection
- AGRIS/AGRINTER Integration
- Coordination with other national and regional systems
The proposal should be oriented to upgrade, in its first phase of operation, at least eight (8) libraries as the basis for the integration of the future network. Special mention is made of the expected contribution of the library of the Central Agricultural Station at Mon Repos which should become a major component of the network.

The priorities in this phase of the proposed network are categorized as follows:

1. Formal establishment of the coordinating centre of the network
2. Promotional activities among the national authorities, the component institutions, libraries and users
3. Training programmes for librarians at different levels (specialized courses, basic training)
4. Technical assistance to the cooperating libraries
5. Planning and elaboration of systems tools
6. Planning and design of specialized services to users.

1. Establishment of the coordinating centre (UNIT)

It is evident that at present there is only one place that has the necessary resources and facilities to carry out such a function, namely the University of Guyana Library. Table 3 shows the figures related to its resources in comparison to those of the other units surveyed.

In addition, the following facts are to be taken into consideration:

- The University of Guyana Library is at this time serving as a National input centre for the international Agricultural Information Systems-AGRINTER/AGRIS.

- The University of Guyana Library is committed to the establishment of a faculty library to support the teaching and research programmes of the Faculty of Agriculture.
- The Agricultural documentation project, initiated by the National Science Research Council, has been handed over to the University Library, to be integrated with the proposed Faculty Library.

- A professional librarian has already been assigned the responsibility for the development of a basic collection of resources in the subject area of agriculture, to which has been added the NSRC Agricultural Documentation Project.

- Exploratory talks between authorities involved (Ministry of Agriculture, Faculty Library) have resulted in a favourable disposition towards the idea of merging the existing Central Agricultural Station Library, with the proposed Faculty Library.

Clearly, the University of Guyana Library should undertake the responsibility for making the necessary provisions to incorporate the functions of a documentation centre within its existing structure.

This activity of establishment of the coordinating unit includes:

1) Getting the official approval of the highest level to act as the National coordinating centre. This is important in order to secure the resources and authority necessary for carrying out the proposed network programmes and projects.

2) Manpower. In this preliminary stage of the network development, it is necessary to hire at least one unit of professional staff in addition to the one already existing to be responsible for the agricultural collection in the University of Guyana Library.

One unit will be in charge of all activities related to coordination of the network with the component institutions, and the other will be responsible for the operation of technical activities. A division of responsibilities will be made for technical cooperation, training and services to users.

The professional staff have to be dedicated full time to the coordination and supervision of the network. A Resident Consultant
at the international level is strongly recommended as an important counterpart to assist in the technical implementation of the project. One auxiliary staff, a secretary and one clerk-typist will be necessary to realise routine functions.

3) **Space.** Enough space should be allowed for new staff, equipment and office material. In this preliminary phase space is not required for documentary resources, since the agriculture collection is integrated into the general collection of the University of Guyana Library.

4) **Equipment, Furnishings, Materials and Supplies.** Basic tools and office material will be necessary for administrative functions, technical processes, training and technical cooperation, and specialized services to users.

2. **Promotional Activities:**

1) Elaboration of orientation programmes and the conduct of demonstrations of the organization, showing the benefits and services to be offered by the network.

2) Letter forms distributed to the institutional authorities and users, informing them of plans and progress of the network as well as the different types of support wanted.

3) Formal agreements of the network components have to be prepared, presented and signed.

4) National meeting of librarians and documentalists. Authorities of the institutions involved as well as users should be invited. Basic organization of the network and objectives should be in the programme, as well as component's responsibilities and benefits, special and regular projects and kinds of participation required from network components.
5) A pamphlet should be prepared and at least 1000 copies distributed to potential users and national authorities outlining the members of the network, the services offered, how to get services, possible service charges, network organization and inputs required from users.

3. Training Programme:

Organize and offer training activities with the cooperation of University Library staff, special national documentation units, and different experts during the execution of the recommendations of the proposal. As was stated in the findings of the survey, professional librarians are very scarce in the agricultural sector. Therefore to have them involved in the network development and implementation, some degree of special knowledge about the technical operation of the network has to be provided for them.

The training programme for this preliminary organizational phase of the network should include the following types of training:

- In-service training  
- Short special courses } In the country or abroad

It is strongly recommended that short training courses be organised and implemented at national level. It has been demonstrated that these courses cause a major impact and benefit to a larger number of people. Courses abroad are recommended mainly to "train the trainers".

It is suggested that the training programme covers in some degree the following topics:

- Organization of specialized information centres and services
- Design and provision of specialized services
- Analysis of information, abstracting and indexing
- Special agricultural collections-development and use
- National agricultural information flow and its integration at regional and international levels (AGRIS/AGRINTER)
- Exploitation of national and international information resources.

For in-service training within the country, the following places are suggested:
- CARICOM - Documentation UNIT;
- University of Guyana Library

Particular training places abroad are recommended as follows:
- ECLA - Documentation centre;
- University of the West Indies Library;
- Agricultural Department, Trinidad;
- CIAT-Colombia;
- BINAGRI-Brazil;
- CIDIA-Costa Rica;

Others can be added later on.

1) Provision should be made for at least three in-service training programmes abroad for the professional staff of the coordinating centre. These could be estimated on a basis of two-week periods. Topics will be chosen from the list of subjects already provided in this proposal as the possible places. The main objective of this type of training is to train the trainers in the national courses to be offered, and to provide them with some practical knowledge of the operation of similar centres in other countries.

2. At least three courses at the national level should be organized in this preliminary phase of the network proposal, each attempting to have the people of the component libraries involved in the development programme of the network. It is estimated that at least 12 persons at the auxiliary staff level will participate in the courses. It is recommended that the period for each course
be of two weeks' duration. Some experts from abroad could reinforce the national lecturers if their consultantship period coincides with the course dates.

3) Participation in technical meetings abroad will be an important type of training and coordination, since the national network is going to be integrated into regional and international information systems. The network should be represented in at least two specialized international meetings.

4) Technical Assistance

It will be necessary to carry out two kinds of technical assistance:

- Technical assistance that the coordinating centre provides to the network components in order to have them involved in the different stages of the network development, and

- Technical assistance needed by the network from abroad in the planning, design and implementation of the activities and projects of the network proposal.

Technical assistance from abroad will be recommended particularly in the following areas:

- Planning, design and implementation of information networks. This is necessary to initiate officially the operation of the proposed network and define the main activities as well as to adjust the schedule already proposed.

- Design and establishment of current awareness services and users' profiles, users' studies, etc.

- Computerized information services. It is convenient at a certain stage of development of the network to explore the possibilities of establishing some degree of automation in the processing or in the services. A feasibility study has to be made and a proposal produced by a systems analyst and computer specialist.
Coordinating centre technical assistance is a continuing activity during the different phases and activities of the network, in areas such as standardization of network; collections development; systems tools elaboration and use; adoption of new services or improvement of existing services.

A resident consultant at the international level is recommended for the implementation of the project. The advantages of having a resident consultant would be, among others, the following:

a) The execution of the project, technically speaking, would have a greater possibility for success.

b) It would ensure technical support to the national staff in the accomplishment of their responsibilities.

c) It would give strong support to the projects' training components.

d) It would strengthen the impact of the programmed short consultancies.

It should be borne in mind that this type of specialist is very limited in the world. If one is available, attractive living conditions and salary will have to be offered. Also, it is difficult to get this type of personnel for less than one year.

Technical assistance from abroad to the network is recommended early in the implementation of the proposal, to provide some guidance in the planning and organization of the network, selection of priorities for the activities and adjustments in the proposed schedule.

A second technical assistance mission would be necessary in the mid-term of the schedule to evaluate the programme accomplishments and give assistance in areas such as elaboration of system tools; etc.

A third and fourth mission would be carried out at the last part of the period to:

a) prepare a feasibility study for the establishment of some computerized functions and services;
b) make an evaluation of the project;

c) participate in training activities; and

- d) prepare a report and make recommendations on the next phase of
development of the network.

Technical assistance from abroad is estimated at missions of not
more than two weeks each.

5. **System tools development:**

1. **Inventory of relevant agricultural documentation produced in Guyana:**
This activity tends to involve the components of the network in locating both
old and current agricultural documents produced within the country. A mini-
project could be derived from this activity in order to classify all the
retrospective bibliographic references according to the AGRINTER/AGRIS codes.
In this way a data base can be produced and upgrading will be much easier by
computerized methods. Eventually this data base could be merged with those
of the other Caribbean countries to present the users with a wider and more
useful bibliographic tool. Other by-products can be produced such as special
bibliographies by subject, chronological, commodities, etc. This computerized
bibliography will be a union catalogue of the publications produced in Guyana.

2. **Union list of serials in agriculture and related fields existing in Guyana:**
This activity requires the cooperation of the agricultural institutions
in the network. It is necessary to determine the methodology to be followed
in the collection, registration and updating of the information. Data has
to be organized, published and distributed. Of particular interest is the
orientation of the users in using it efficiently.

3. **A union catalogue of books:** This can be initiated during this phase
of development as an exploration of what really exists mainly in terms of
reference works. It has to be remembered that, generally speaking, the
collections of books are not updated. Further, several classification schemes
are used and a significant number of the collections are not classified at all.
4. **Directories and guides:** An updated list of information producers has to be developed to help the network in locating the documents as soon as they are produced, and to share the responsibilities of the components in "capturing" those documents. A list of basic agricultural libraries and "working collections" has to be prepared and updated continuously. It will be much more useful if it includes other agricultural libraries in the Caribbean region.

5. **Communication:** A network cannot work properly as such without a good communication system. The coordinating centre has to work in the establishment and improvement of the present communication channels such as: mail, radio, telephone, telecommunication or any other means of communication among the components.

Of particular interest for the network will be the acquisition of a vehicle. Transportation will be useful for interinstitutional loan; exchange of documents and distribution of different information products and services. It would be extremely useful to accelerate some other network activities such as training, technical meetings, technical assistance missions, etc.

6. **Basic reference collection:** It is recommended that the collections of the coordinating centre be strengthened, especially in those costly reference tools, which are essential in its capacity as a Referral center and to give support to the total network. In addition, it is necessary to reinforce the collections of the libraries, components of the network actively participating in its development and operation. This activity should be implemented once the union list of serials, the union catalogue of books and the national agricultural bibliography projects have reached an advanced stage of development. This will allow the coordinating centre to obtain some knowledge of the gaps existing in their collections as well as the emphasis in subject fields that each library needs to make according to its responsibilities within the network.
6. Planning and design of specialized services to users: The main services of documentation and information units are generally referred to as "responsive and alerting services" as they are provided either in response to requests from the different categories of users or on an anticipated basis to individuals and institutions according to their interest profiles previously elaborated.

According to the library development plan* and on experimental basis the project intends to establish some specialized information services, most of them in a cooperative effort with the network components. Briefly these are:

Current awareness service - which provides information to selected users on documentation produced in their fields of interest in current journals received at the centre or the network. This service includes "content pages","short bibliographies" prepared on request of users and "lists of papers presented to national and international conferences", etc.

Enquiry services - where requests for scientific and technical information in answer to specific questions can be obtained from the centre. This includes the type of "referral services".

Document procurement service - which will obtain for users, a microcopy or reprint of any published article that he may request.

Translating service - which will provide the user with a translation or abstract of an article in a language understood by him.

Reprographic services - the centre will have access to equipment to provide the users with reproduction of documents either in its original size or in microforms. This service includes a selective distribution of photocopies to users in areas of high priority according to interest profiles previously elaborated.

Users orientation - formal and informal advisory services in the use of information sources.

SITUATION AT END OF THE PROJECT

At the end of 24 months the project is expected to reach, among others, the following targets, as the first phase of implementation of the Agricultural Documentation and Information network for Guyana:

1. An agricultural documentation and information Unit created to constitute the nucleus of the national agricultural information network.

2. The following additional staff hired and trained.
   - 2 Documentalists
   - 1 Technical Librarian
   - 1 Secretary
   - 1 Clerk/Typist
   - 1 Administrative and Support Staff

3. At least five significant institutions of the agricultural sector participating in cooperative activities of the network. (Agreements of exchange; Inter-institutional loan; sharing of documentation resources; delivery of documents or input sheets to the coordinating centre; promotional and orientation activities).


5. A Union list of agricultural periodicals prepared and in operation within the network.

6. Some lectures, conferences and demonstrations given to national authorities and potential users; and an information pamphlet of the specialized services of the network elaborated and widely distributed.
7. A training programme elaborated and the following accomplished:

- at least three coordinating centre staff trained abroad (intensive in-service training).
- at least ten (10) people of the network received on-the-job training from the foreign experts proposed in the project.
- at least two (2) coordinating centre staff attended technical meetings abroad dealing with AGRINTER/AGRIS Systems.
- at least twenty (20) staff of the network components trained in short national courses, dealing with important aspects of the organization and operation of the network.

8. Appropriate space and facilities provided for the staff, materials and equipment in the coordinating centre.

9. Basic bibliographic collections upgraded in both the coordinating centre and at least four network components.

10. At least four specialized services being offered within a cooperative effort by the network components.

11. The flow of Agricultural documentation and information in Guyana systematized; the degree of the country's participation in regional and international information systems increased (AGRINTER AND AGRIS)

12. Mid-term and final evaluations of the project made and adjustments proposed, and a report with suggestions elaborated and presented to the authorities.

INSTITUTION RESPONSIBLE FOR THE EXECUTION OF THE PROJECT

The Librarian of the University of Guyana Library will be responsible for the administration and technical execution of the project.
The Institutions of the agricultural sector will participate in the operation of the project through their libraries cooperating in the network.

**TOTAL COST OF THE PROJECT**

For the implementation of this first phase of the projected network an amount of US$258,000 will be required.

The University of Guyana will contribute the amount of US$41,700 plus significant counterpart contributions in kind, general services, administration of the project and logistic support.

An amount of US$216,300 will be required from external sources.
TABLE 1: ESTIMATED DETAILED BUDGET (24 months)

<table>
<thead>
<tr>
<th>Personnel</th>
<th>US$ Cost</th>
<th>Funds</th>
</tr>
</thead>
<tbody>
<tr>
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<td>M/M</td>
<td>National</td>
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<td>2 Documentalists</td>
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<tr>
<td>1 Technical Librarian</td>
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<td>4,000</td>
</tr>
<tr>
<td>1 Secretary</td>
<td>24</td>
<td>4,000</td>
</tr>
<tr>
<td>1 Clerk Typist</td>
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<td>3,200</td>
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- TECHNICAL ASSISTANCE

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<thead>
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<td>4 International</td>
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- EQUIPMENT & FURNISHINGS

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<td>Office Equipment</td>
<td>6,000</td>
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<tr>
<td>Office Furnishings</td>
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<tr>
<td>Photocopying machine</td>
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<td>and Accessories</td>
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- MATERIALS & SUPPLIES

<table>
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<tr>
<th>Material</th>
<th>US$ Cost</th>
<th>Funds</th>
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<td>Office and Library supplies</td>
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- BIBLIOGRAPHIC MATERIALS

<table>
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<tr>
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<td>Basic collection</td>
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- PROMOTIONAL ACTIVITIES

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<tr>
<th>Activity</th>
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<tr>
<td>National meetings</td>
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<td>Promotional Materials</td>
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<td><strong>TRAINING</strong></td>
<td>3 In-service Training Abroad</td>
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<td>3 National Courses</td>
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<td>2 Technical Meetings Abroad</td>
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<td><strong>SYSTEMS TOOLS</strong></td>
<td>Agricultural Bibliography of Guyana (Publication &amp; Distribution, 300 copies)</td>
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<td>Union List of serials (Elaboration &amp; publication, 300 copies)</td>
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<td>2 Directories (Agricultural Specialists; Agricultural information sources, 300 copies)</td>
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<td>Union Catalogue of Books</td>
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<td><strong>COMMUNICATIONS</strong></td>
<td>Telephone, postage, telecommunication</td>
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<td>Local transportation (vehicle)</td>
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<td><strong>USER SERVICES</strong></td>
<td>Testing &amp; promotional specialized services, photocopies, etc.</td>
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<tr>
<td><strong>MISCELLANEOUS &amp; GENERAL SERVICES</strong></td>
<td>Reports, contingency, inflation, general services</td>
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**TOTALS**                        | 258,000                                                             | 41,700  | 216,300 |
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<td>International</td>
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<tr>
<td>Non-professional</td>
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<td>Support Personnel</td>
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<td>SECOND YEAR</td>
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<td>Administrative &amp; Support</td>
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<td>Personnel</td>
<td>13</td>
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<td>100</td>
<td>216,000</td>
<td>216,000</td>
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REFERENCES


2. ARBOLEDA-SEPULVEDA, O. A general view of the agricultural documentation and information in the Antillean zone: Barbados, Guyana, Haiti, Jamaica, Dominican Republic, Trinidad and Tobago. (In Spanish) San José, Costa Rica, IICA, 1977, 19p. (Travel report sponsored by IDRC/IICA).


6. CARIBBEAN Agricultural Research and Development Institute. The establishment of an agricultural information service at the Caribbean Agricultural Research and Development Institute for the Commonwealth Caribbean Bridgetown, Barbados, CARDI, 1979, 18p. (Proposal to the International Development Research Centre-IDRC, Canada and the Inter-American Institute of Agricultural Sciences-IICA, Costa Rica).


10. COOPER, A. Bibliography of phytogeography, plant ecology and related subjects in Guyana. Georgetown, Department of Biology, University of Guyana, 1974, 17p. 90 ref.


35. WELCH, I.A. Selected list of reports, papers, etc. dealing with forest evaluation and forest reconnaissance surveys, aerial photo-interpretation, geology-soils and forest resource development, available from Forest Department records. Georgetown, Forest Department, 1976. 11p.

Main Agricultural Information/Documentation producers in Guyana
(Active and Potential)

1. Ministry of Agriculture
2. Guyana Museum and Zoo
3. Guyana Rice Board
4. Guyana Sugar Corporation
5. Livestock Development Company
6. Guyana Marketing Corporation
7. Guyana Food Processors Ltd.
8. Ministry of Economic Development
9. State Planning Secretariat
10. Upper Mazaruni Development Authority
11. National Library
12. National Science Research Council
13. University of Guyana
14. Society of Professional Agriculturalists of Guyana
15. Institute of Applied Science and Technology
16. Pharmaceutical Chemical Food Processing and Allied Group

Bilateral agencies who sponsor research or provide consultancy in Agricultural and related fields:

17. IICA
18. United Nations Development Programme
19. European Communities
20. US Agency for International Development
21. Canadian High Commission
22. British High Commission
23. Caribbean Development Bank
24. IDB-Inter-American Development Bank
25. Caribbean Community Secretariat
26. CARDI
27. REPAHA
MAIN TOPICS COVERED BY THE SURVEY
(LIBRARIANS/PRODUCERS/USERS)

- ADDRESS
- YEAR ESTABLISHED
- STAFF: (Total
  Professional
  Non-professional
  Person-in-charge)
- USERS (Potential
  Active
  Registered) (Information Needs
  Alternative Solutions
  Problems Encountered)
- SUBJECTS COVERED
- COLLECTIONS:
  - Special
  - Abstracting/Indexing services
  - Book Volumes
  - Journal subscriptions
  - Other
- CLASSIFICATION SCHEME AND RETRIEVAL SYSTEMS
- SERVICES PROVIDED:
  - Reading Room
  - Borrowing privileges
  - Current awareness services
  - Tailored SDI Services
  - Consulting Services
  - Photocopy Service
- COOPERATIVE ACTIVITIES (National or International)
  - Inter-library Loan
  - Exchange of Publications
  - Union Catalogues
  - Bibliographic Projects
- SPECIAL EQUIPMENT
- BUDGET:
  - Parent Organisation
  - Service Fees
  - Grants
  - Other
- IMPROVEMENT PLANS
  - Buildings
  - Staff (hiring & training)
  - Equipment
  - Collections
  - Services (extension/new)
  - Communication channels

- PUBLICATIONS:
  - Funding
  - Distribution

- SPECIFIC SUBJECTS OF INTEREST IN A NEAR FUTURE

- POSSIBILITIES OF COOPERATION IN A NATIONAL NETWORK
  (as intermediaries, producers or users of information)

- INSTITUTIONAL SUPPORT TO INFORMATION/DOCUMENTATION PROJECTS & SERVICES
LIBRARIES IN AGRICULTURAL AND RELATED FIELDS

1. CARIBBEAN COMMUNITY SECRETARIAT LIBRARY
   Fourth Floor, Bank of Guyana Building
   Avenue of the Republic
   GEORGETOWN
   Tel. 02-69280-9
   1970-
   Mrs. Carol Collins, B.A., Dip. Ed., B.L.S.
   Staff: 5
   Agriculture; Communication; Transport; Customs and Tariff Policy; Economics; Labour Relations; Marketing; Statistics; Demography; Sociology; Trade.
   6,000 Book Volumes
   50 Journal Subscriptions in Agriculture
   5 Abstracting and Indexing Services
   Photocopy Service
   Special Bibliographies on Request
   New Publications List

2. FOREST DEPARTMENT LIBRARY
   Water Street, Kingston
   Georgetown
   Tel. 02-66447
   Forestry and Related Fields
   3,700 Book Volumes
   22 Journal Titles

3. GEOLOGICAL SURVEY LIBRARY
   Guyana Geology and Mines Commission
   Brickdam, Georgetown
   Tel. 02-65851-3 Ext. 16
   1954-
   Staff: 3
   Geosciences; Mathematics
   14,000 Book Volumes
   78 Journal Titles
   7 Abstracting and Indexing Services

* Libraries not visited
4. GUYANA SCHOOL OF AGRICULTURE LIBRARY
Mon Repos, East Coast Demerara
Tel. 020-2804-5
1966-
Miss Halima Hydarali
Staff: 2
Agriculture and Related Fields
2,500 Book Volumes
20 Journal Titles
Photocopying Service

5. INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES
299 Church Street
Georgetown
Tel: 02-68835, 68347
1976-
Staff: 1
Working Collection of IICA Agricultural Subjects of Interest;
IICA Publications; Planning and Development
800 Book Volumes
15 Journal Titles
2 Abstracting and Indexing Services
Photocopying Service

*6. KURU-KURU CO-OPERATIVE COLLEGE LIBRARY
Linden Highway
Tel. 061-326/327
1973-
Miss Claire Adonai, B.A.
Staff: 2
Agricultural Enterprises; Business Administration; Food and
Resource Development; Co-operatives.
3,000 Book Volumes
70 Journal Titles

7. LIVESTOCK DEVELOPMENT COMPANY (LIDCO)
58 High Street, Kingston
Georgetown
Tel: 02-60952
Working Collections: Veterinary Medicine; Animal Husbandry
600 Books
51 Journal Titles

* Libraries not visited
8. MINISTRY OF AGRICULTURE
Veterinary and Livestock Science Division
New Garden Street
Georgetown
Working Collections: Animal Production; Veterinary Science
500 Book Volumes
26 Journal Titles
7 Abstracting and Indexing Services

9. MINISTRY OF AGRICULTURE LIBRARY
Central Agricultural Research Station
Mon Repos
East Coast Demerara
Tel. 020-2881-3
Miss Leila Waldron
Staff: 1
Agriculture and Related Fields
3,000 Book Volumes (no classification scheme)
100 Journal Titles
35 Abstracting and Indexing Services

10. MINISTRY OF WORKS AND TRANSPORT LIBRARY
Fort Street, Kingston
Georgetown
Tel. 02-69221 Ext. 35
Miss Maureen Persaud
Staff: 3
Hydrometeorology; Hydrology; Climatology; Electricity;
Civil Engineering; Applied Science and Technology
2,000 Book Volumes
50 Journal Subscriptions
2 Abstracting and Indexing Services

11. PHARMACEUTICAL CHEMICAL FOOD PROCESSING AND ALLIED GROUP LIBRARY
Public Road, La Penitence
Tel. 02-63281 Ext. 60
Telex - 2203 LIMACOL GY
1980-
Jean Craigwell, A.L.A.
Staff: 2
Pharmaceutical; Food Processing; Marketing; Pesticides; Agro
Industrial Chemicals
600 Book Volumes
60 Journal Subscriptions
2 Abstracting and Indexing Services
12. UNIVERSITY OF GUYANA LIBRARY
   University Campus
   Turkeyen
   East Coast Demerara
   Tel. 02-54841
   1963-
   Mrs. Yvonne Stephenson, A.L.A., M.L.S.
   Staff: 65
   General: Agricultural and Related Fields; National Agricultural
   Collections; Caribbean Research Library
   110,000 Book Volumes
   120 Journal Titles in Agriculture and Related Fields
   25 Abstracting and Indexing Services
   Photocopying Service
   Bibliographies on Request
   Microformats
ITINERARY

Visit of UNESCO Consultant in Agricultural Information
Mr. Orlando Arboleda
January 26 - February 11, 1981.

MONDAY, January 26  -  8.00 a.m.  Inter-American Institute of Agricultural Sciences
Dr. Reginald Pierre, Director

10.00 a.m.  University of Guyana Library
Yvonne V. Stephenson, Librarian
Olive King
Olive Sahai
Luti Salisbury
Joel Benjamin
Frank Kyei
Phillip Jeffrey
Jennifer Jackson
Jennifer Isaacs

TUESDAY, January 27  -  8.45 a.m.  Visit to University Library

WEDNESDAY, January 28  -  10.00 a.m.  Dr. Prashad, Dean, Faculty of Agriculture

11.15 a.m.  Courtesy call on Dr. Dennis Irvine, Vice-Chancellor, University of Guyana

1.30 p.m.  Cde. C. Jarvis, Secretary-General for UNESCO in Guyana

3.00 p.m.  Dr. U. Trotz, Director of Institute of Applied Science and Technology

THURSDAY, January 29  -  8.30 a.m.  Medical Science Library
Cde. Maureen Wren, B.A., Librarian

10.00 a.m.  Cde. G. Lee, Executive Chairman, Guyana Pharmaceutical Corporation
and
Cde. Jean Craigwell, Librarian

11.00 a.m.  Cde. Marilyn Hope, Librarian, Geological Surveys

2.30 p.m.  Cde. Yesu Persaud, Chairman, Guyana Liquor Corporation

3.30 p.m.  Cde. Maureen Persaud, Librarian, Ministry of Works and Transport
FRIDAY, January 30 - 9.00 a.m.  Guyana School of Agriculture
Mon Repos
Cde. Desmond Nicholson, Principal Lecturer
Cde. Halima Hydarali, in charge of the Library
Cde. Walter Matadal, Principal Agricultural Officer (Education and Extension)
Cde. Harry Persaud, Principal Agricultural Officer (Crop Sciences)
Cde. Leila Waldron, in charge of the Library
Central Agricultural Station, Mon Repos

SATURDAY, January 31 - 10.00 a.m. Cde. A. Chin, Research & Extension Officer, Guyana Rice Board

MONDAY, February 2 - 8.30 a.m. Cde. G. Muller, Other Crops Division, Guysuco
9.30 a.m. Cde. John Browman, Chief Agricultural Officer, Ministry of Agriculture
11.00 a.m. Dr. Steve Suriybally, LIDCO
2.30 p.m. Cde. Joan Christiani, Chief Librarian, National Library
3.00 p.m. Cde. George Burnham, Museum
4.00 p.m. Cde. V. Yong Kong, Guyana Sugar Corporation

TUESDAY, February 3 - 9.00 a.m. Visit to Guymine Library,
Cde. Elfreda Lewis, Librarian
Cde. Kenrick W.W. Lewis, Administrative Co-ordinator
7.30 p.m. At Home, Mrs. Stephenson

WEDNESDAY, February 4 - 9.30 a.m. Dr. Pat Munro, Secretary-General, National Science Research Council
Prof. J. Niles, Man and the Biosphere Programme, National Science Research Council
Cde. McMurdoch, Librarian, National Science Research Council
WEDNESDAY, February 4 - 10.30 a.m.  Dr. A.V. Downer, Agricultural Research Officer, NSRC

2.30 p.m.  University of Guyana Library, Professional Development Seminar
GUYANA: STATISTICAL PROFILE (*)

Area (km²) ........................................ 214,970

Estimates of total midyear population:
  1979 .............................................. 835,000
  1985 .............................................. 925,000

Percentage of urban population (1979) ............ 45,6

Annual Rate of Growth of Total Population (percent)
  Average (1970-79) .............................. 1,7

Gross Domestic Product (Millions of 1978 dollars)
  1979 .............................................. 503,7

Gross Domestic Product per capita (1978 dollars)
  1979 .............................................. 603,2

Rates of Annual Growth (percent)
  Total GDP in 1960-79 .......................... 2,5
  GDP per capita in 1960-79 ...................... 0,6

Percentage of total central government expenditure for:
  Education (1979) ................................ 12,0
  Public Health (1979) .......................... 4,4
  Housing (1979) .................................. 0,6

Exchange rate (units of the national currency per dollar)
  December 1979 ................................. 2,55
  April 1980 ..................................... 2,55

Percentage of Literacy (1978) ...................... 86,0

(*) Extracted from:
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