

Centro Interamericano de
Documentación e
Información Agrícola

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IICA — CIBIA

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**REVIEW OF TECHNICAL DOCUMENTS
PRESENTED IN THE
IICA/JAMAICA SERIES
“AGRICULTURE IN JAMAICA”**

IICA/JAMAICA

X **Miscellaneous Publication #367**

Series ISSN-0534-5391

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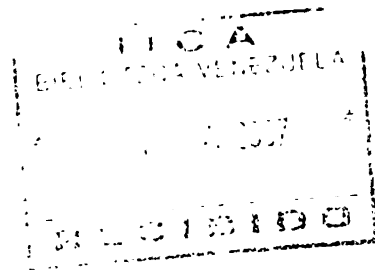
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REVIEW OF TECHNICAL DOCUMENTS
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"AGRICULTURE IN JAMAICA"



• by

Dr. Irving E. Johnson
Dr. Percy Aitken-Soux
IICA/JAMAICA

January 1983

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PREFACE

Much of the background information requested by the IICA/Jamaica Office when preparing the Country Level Action Plan was not available. It was found that although much work had been done in the field of agriculture, for many reasons the extent to which documented information was available for general consumption was very low. Accordingly the IICA Office took steps to assist in improving the situation by preparing technical documents and encouraging national technical officers to prepare appropriate reports on wide-ranging topics in the area of Agriculture.

This document which forms the 100th publication of those included in the series "Agriculture in Jamaica" presents a very brief description of the other 99 documents.

The first 3 broad sections of the presentation spell out the background against which documentation is made in Jamaica.

The considerable demand for the publications, the number of which has been limited by budgetary constraints, indicates that IICA's assessment of the needs for these publications was well founded. Heartened by this situation IICA feels that National technicians have become aware of the necessity to fulfil their part by preparing documents on topics which can assist in providing reference information for the purpose of understanding and improving Jamaican Agriculture. An emphasis will be placed on improving the quality of presentation, where appropriate.

Irving Johnson
Percy Aitken-Soux

November 1982.

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REVIEW OF TECHNICAL DOCUMENTS
PRESENTED IN THE IICA/JAMAICA SERIES
"AGRICULTURE IN JAMAICA"

1. BACKGROUND

1.1 Agriculture embraces a very wide range of topics which at times, for purposes of convenience, are grouped into sub-sectors having various elements. This multi-faceted situation is further complicated by the many variables which affect agriculture. Levels of competence and expertise of the clientele or readership and their reactions to documented material are factors which affect the use and usefulness of the documentation and the extent to which it meets its objectives, stated or implied.

1.2 Speaking universally, many of the basic and important principles of agricultural technology are available to all would-be users. What is not available, however, is information as it applies to specific situations in individual countries. It is for this reason that it is necessary for adaptation and adoption of technology within the ambit of known principles, in order to accommodate particular conditions. Indeed there are situations in which the so-called basic principles have got to be modified, or even substituted, if one is to accommodate the requirements which are demanded for specific conditions. The many variables themselves as well as the considerable range of distortions which occur have not been adjusted by theories and concepts derived under completely different circumstances, hence the necessity for adapting techniques prior to adopting them under strange situations.

1.3 In Jamaica, as obtains in many developing countries, there is a dearth of documented technical information even where there exist highly qualified personnel. The level of documentation is often out of step with the competence of the trained technical personnel. At first it might be felt that this is due to inertia or unwillingness on the part of technicians to prepare and document information except on some of these rare occasions on which documentation is required for seminars, workshops and so forth. This is compounded by a tradition of non-preparation and non-publication of information. The main reason for this situation often depends on the system which exists, as will be seen as this presentation develops.

32

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1.4 The technical personnel to whom allusions are made reside in both the public and private sub-sectors of agriculture. In this context the public sub-sector includes persons paid from the public purse, be they civil servants (central government) members of local government, or members of statutory bodies and quasi-government institutions. These persons are employed in areas of work which are most conducive to, and most appropriate for, the preparation of technical documents. Each of the entities named has its own brand of bureaucratic resistance to the preparation and dissemination of technical documentation.

1.5 An important reason is the fact that government employees, under the system such as obtains in Jamaica, in general are not allowed to publish any documents. In this context it has been customary for most information to be presented in the form of memoranda which were placed on files - most of the information being regarded as classified or confidential. Those persons who were able to obtain approval to prepare material for publication had to do it under the authorship of the agencies, department or division in which they were employed. In such a situation the documents had to be scrupulously vetted and re-vetted before final approval was obtained. Often technical material was appraised by persons having little technical competence, their main criterion for withholding a document being whether it had breached policy, explicit or implicit. The individuality of authorship was totally suppressed or non-existent. Since there would be no pride of authorship, like the "proverbial mule" who has neither pride of ancestry nor hope of paternity, the result was one of sterility. Few people were interested in documenting, a situation which to some extent was attenuated by inertia and ineptitude.

1.6 The situation associated with documentation by government employees of whatever level must take into consideration the fact that the main benefit to be derived is the development and documentation of a body of knowledge for local consumption. The main problem relates to bureaucratic and other arguments concerning authorship and the benefits to be gained by individuals who use the time and resources of agencies in promoting their own personal ends.

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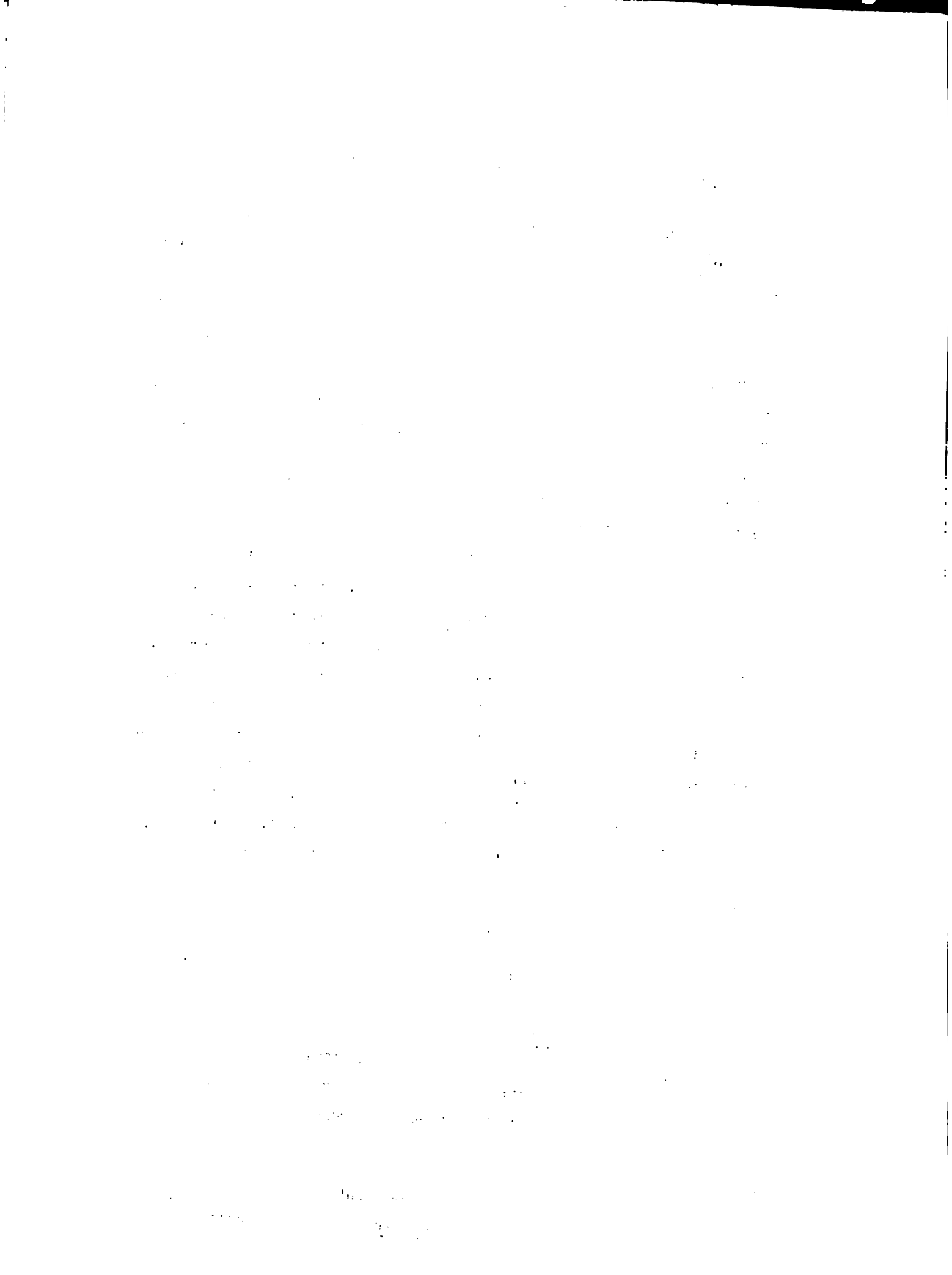


1.7 By comparison, the situation in the University of the West Indies shows some variation. Usually, universities adopt a dictum for its scientists of "publish or perish". In some countries this is honoured more in the breach. In many instances the information provided is for the express purpose of promoting the author (individual). In others it is to commit to writing information which otherwise would have been lost or buried on some shelf. The purpose is to provide reference material, and information at any given point in time, as a basis for up-dating knowledge. This, in Universities usually provides a useful starting point for preparation of textbooks, which not only make information available for sundry readers but also constitute a source of income for the authors. It is unfortunate that this very fertile area has not been exploited by the University of the West Indies.

1.8 It is noticeable that with the passage of time and with the adoption of a more rational policy by administrators, restrictions governing documentation and authorship by government employed personnel have been relaxed to some degree, and that the point has been reached where these technicians have been allowed to prepare and publish technical papers even in the popular media. Some documents appear in monthly and quarterly publications. There is always a fee associated with publication in the media or in periodicals and it is true to state that one of the reasons for objections to government personnel contributing technical articles to these sources was based on the fact that public servants were only supposed to receive income from state funds.

1.9 As more and more technical personnel seek to improve their status, employment-wise, they have become aware of the necessity to present Curricula Vitae, inclusive of papers, articles etc., prepared and documented. This has served as an incentive for many to undertake appropriate documentation of aspects of their work, or to re-discover documents prepared by them but presented under dubious or imprecise authorship.

1.10 Another important aspect of documentation relates to the quality of material presented, vis-a-vis, the readership and



clientele. Without the incentives indicated above and the objectives for preparing and documenting information, there has not been observed that quality of presentation which would otherwise have been exhibited. In addition, from a competitive point of view, access to documentaries from similarly trained personnel for the cliente; implied in this publication has tended to improve the levels of presentation. In addition, the question of uniformity of presentation now attracts greater attention than previously, and this augurs well for the future.

1.11 The situation described thus far is symptomatic of the presentation and publication of technical documents in Jamaica up to the recent past - say up to 5 years ago. On its creation in Jamaica, the IICA/Jamaica office found that, in its endeavour to pursue its objectives of working in improving and developing agriculture, there were many areas which fell within the ambit of the agricultural sector for which there was little or no information documented or otherwise. The IICA/Jamaica office has therefore taken deliberate steps to assist and encourage local personnel in - identifying material which they have prepared; upgrading the material presented, where necessary; and preparing and documenting information on subjects for which no information is available. Additionally, this action has served to bring to notice technical papers prepared by national technicians which have been adorning, undisturbed, the shelves of offices in MINAG's various Departments. Many of these have been reprinted and presented under the names of the respective authors as various IICA publications. IICA claims no authorship for these documents unless it has been involved in considerable modification of the text of the document and in some of these instances there is joint authorship.

1.12 The main purpose of the presentation which follows is to give the highlights of the publications prepared, or re-surfaced, or merely collected, as a consequence of the intervention of the IICA/Jamaica office. Comments made on the publication titled "Bibliography of Literature relating to Research and Development in the Agricultural Sector 1959 - 1979" under Section 4.34, are of considerable relevance to this entire topic of documentation.

2. STRUCTURAL ASPECTS

2.1 The points raised in the previous section were intended to set the stage for assessing the preparation and presentation (including storage and dissemination) of technical documents in the field of agriculture. This section purports to examine the ambit of documentation coverage and conditions associated with this coverage.

2.2 The documents involved include sundry technical papers on organizational matters, operations in the field of agriculture, statistical information, studies of various types and information prepared for communication purposes. Some of these are investigatory in nature and so would be expected to have restricted readership. Perhaps the most important form of documentation was that which appeared in memoranda which resided in files. From purely logistical points of view this has had a restricted circulation profile.

2.3 At the outset there was little evidence of structure in the documentation available. The files of the Ministry of Agriculture and its predecessor agencies provided information on a policy, technical and/or administrative nature in so far as this related to agriculture. Departments and Divisions kept records at varying levels regarded as appropriate in those days (say up to 30-40 years ago). In this context it should also be borne in mind that the agencies responsible for agricultural matters were set up on an individual basis and that it was not until after the introduction of the Ministerial system (1947) that a structure having elements of coordination evolved. Prior to that time these agencies constituted the Department of Agriculture. Departments of a related nature, e.g. Lands Department, were subsequently merged with the Department of Agriculture to constitute the Ministry of Agriculture and Lands, changed first to two Ministries viz Agriculture and Fisheries, and Rural Land Development, and now to the Ministry of Agriculture. On occasions technically prepared documents were deposited in the Library of the then Department of Agriculture. Usually these documents had to be used in the Library, but in special cases copies were available for individual use away from the Library. Some technical preparations of a strictly extension nature were prepared for 'take-away' by those persons requiring them.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is essential for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and processing, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure throughout its lifecycle.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of a data-driven approach in decision-making and the need for continuous monitoring and improvement of the data management process.

Such documents included guides for rearing and producing stated crops and livestock. Although this information had its limitations, it proved to be rather useful at that time.

3. IICA COLLECTION AND PREPARATION OF DOCUMENTS

3.1 This section purports to give some details concerning the efforts made by the IICA/Jamaica office as mentioned in Section 1.11, in developing the preparation and documentation of information for a wider readership and in encouraging technical staff to increase their efforts in this direction on a more positive basis.

3.2 Collection of Papers of the IICA Office in Jamaica are distributed as follows:

| | | |
|-------------|---------------------|-----------------|
| 1977 - 1978 | Nos. I-1 to I-16 | 16 publications |
| 1978 - 1979 | Nos. II-1 to II-6 | 6 " |
| 1979 - 1980 | Nos. III-1 to III-7 | 7 " |
| 1980 | Nos. IV-1 to IV-21 | 21 " |
| 1981 | Nos. V-1 to V-24 | 24 " |
| 1982 | Nos. VI-1 to VI-26 | 26 " |

4. LIST OF PUBLICATIONS

4.1 Publication No. I-1 BASIC AGRICULTURAL INFORMATION ON JAMAICA Internal Document by Fritz Andrew Sibbles, January 1977; 52 pages plus 21 Tables.

This document presents background information on Jamaica with particular reference to the following:

- (i) Location, Climate and Rainfall
- (ii) Government - Structure
- (iii) Population and Demographic Information
- (iv) General facts on the Agricultural Sector including: Land Distribution; Size of Farms; Land Utilization; Economic Aspects
- (v) Agricultural Institutions
- (vi) Agricultural Production - Domestic, Exports
- (vii) Agricultural Education; Agricultural Marketing; Agricultural Credit

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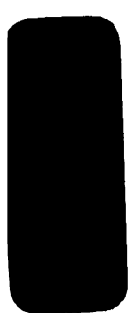
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(viii) New Programmes in Agriculture; and,

Provides a useful quick over-view of agriculture in Jamaica.

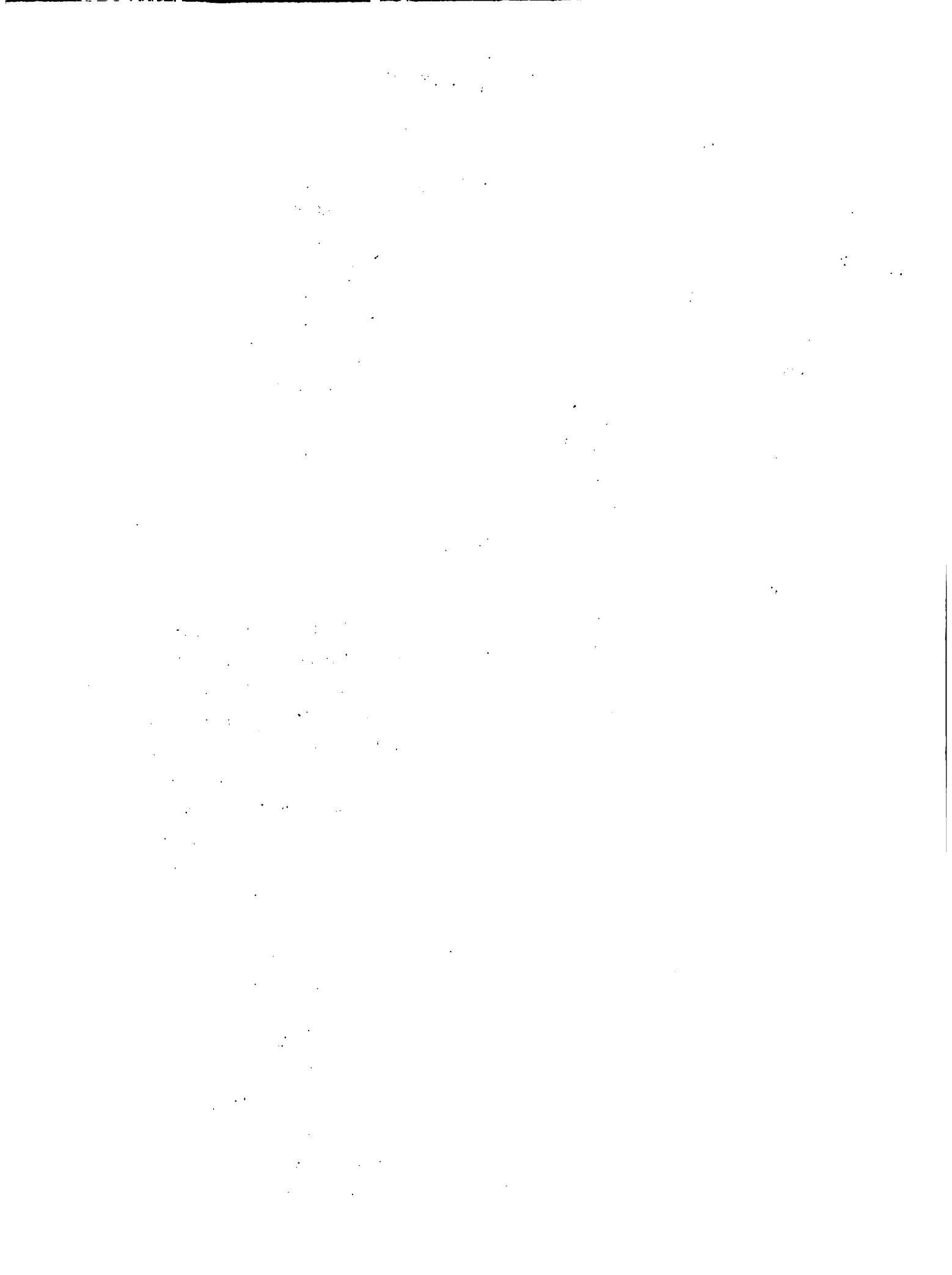
- 4.2 Publication No. I-2 AGRICULTURAL PLANNING IN JAMAICA
by Yvonne Lake, June 1977. 48 pages including 5 Tables.

Prepared in 2 Sections, dealing specifically with Planning to Date, and Proposed Planning. The paper covers national planning and elements of agricultural sector planning dating back to 1946. The document discusses the structure and functions of the Agricultural Planning Unit (now defunct) and refers to the main government departments which support its efforts. The structure and functions of the National Planning Agency are also discussed as well as its relationship to the Agricultural Planning Unit in the overall area of agricultural planning.

Within the ambit of a Proposed Planning System, consideration is given to - Project Planning; Project Financing; Project Financing and Project Divestment at the macro-level. Reference is also made to changes consequent on the 1976 election results which returned the Manley Government to power; and the creation within the Ministry of Agriculture of a Production Unit. It outlined the process by which the Production Unit acquired many of the functions originally performed by the Agricultural Planning Unit (APU) which was thereby effectively emasculated. This important occurrence although outlined was totally ignored in the summary and conclusions drawn. The paper obscures some of the important objectives which it set out to achieve and in instances glosses over some of the more salient considerations.

- 4.3 Publication No. I-3 AGRICULTURAL EDUCATION IN JAMAICA
by Dr. Aston S. Wood. 129 pages including 9 Appendices.

A diagnostic presentation of agricultural education. The study examines the national goals and strategies for education and for agriculture, agricultural education background and development. Thereafter it examines the elements of agri-



cultural education programmes and indicates areas which were thought to require streamlining.

- 4.4 Publication No. I-4 THE MARKETING OF AGRICULTURAL PRODUCE IN JAMAICA by Uli Locher, Department of Sociology, McGill University, Montreal, October 1977. 78 pages.

The paper is essentially a diagnostic study of agricultural marketing in Jamaica. It looks at production and marketing for export and for domestic use, but concentrates more on operations for the domestic elements of production and marketing.

In that context the study highlights the higgler system, the interdependence between different 'systems' of marketing, and how these affect and condition, or are affected and conditioned by, the production systems which exist.

The study in dealing with production makes a number of statements concerning land distribution, and concludes that the complexity and the structure of farms - large and small - make it necessary to have separate marketing arrangements to accommodate these differing situations.

- 4.5 Publication No. I-5 AGRICULTURAL RESEARCH IN JAMAICA by G. Barker, A. Wahab, L.A. Bell. 81 pages including 10 Appendices.

This was a report presented at a Regional Technical Workshop on Agricultural Research Systems in the IICA/OAS Member Countries of the Antilles Zone, held in Haiti, November 28 - December 2, 1977. The presentation includes a summary of agricultural development policy which emphasizes rural development planning. It also includes coverage of the Research Policy within the Agricultural Sector, Official Policy, as established by the legislature, and sectoral plans.

The report identifies the major elements of the National Agricultural Research System in terms of: agencies, sub-systems, objectives, organization and performance, structure,



inter-agency relationship, regional and international relationships; planning, programming and resource base. Other important aspects covered include scope of research, clientele, problems. Consideration is also given to - efficiency and effectiveness of research units; perspectives and suggestions for improving research agencies, and measures for avoiding duplication of effort and developing more relevant research. One of the Annexes presents Project Components of the Proposed Re-organization of Government Agricultural Research in Jamaica (FAO/IDB Cooperative Programme Report 475).

- 4.6 Publication No. I-6 LAND SETTLEMENT IN JAMAICA, by Irving Johnson, Marie Strachan and Joseph Johnson, December 1977. 37 pages. This paper was prepared to fill a need for structured information on land settlement, on which topic there exists relatively little precise documentation.

The presentation deals with the topic in historical periods dating back to 1895 and portrays land settlement activities over what may be regarded as appropriate mile-posts during the period e.g. 1929-1949, 1949-1963, 1963-1972.

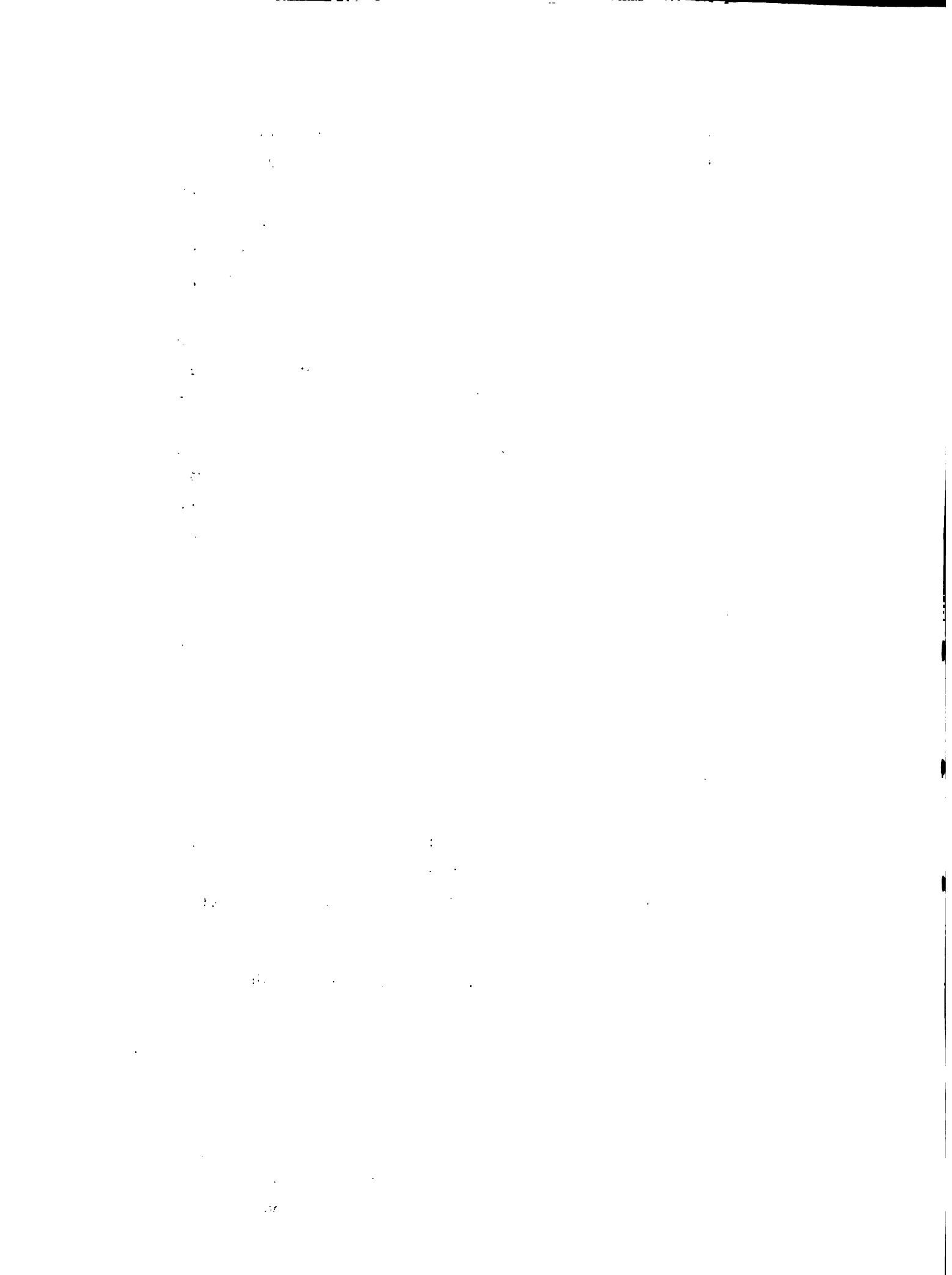
Specific land settlement projects and/or schemes are enumerated as well as the philosophy, policy, conceptual framework and strategy of various governments in dealing with the subject of land settlement. Reference is made to the institutionalization of a number of built-in features which have developed over time, in a continuing exercise for providing land on a structured basis for thousands of small farmers.

- 4.7 Publication No. I-7 GOVERNMENT OF JAMAICA AGRICULTURAL POLICY PAPERS (4) 131 pages.

Paper 1 - An Overview of Jamaican Agriculture, by Agricultural Planning Unit, February 1972.

Paper 2 - Background Information on Land Development and Livestock, by Agricultural Planning Unit, February 1973.

(The paper actually deals peripherally with livestock and so should be regarded more as a comment on Land Development).



Paper 3 - Green Paper on Agriculture - Agricultural Development Strategy. Ministry of Agriculture, November 21, 1973.

This document represents some of the findings of the Agricultural Sector Study, carried out with the assistance of an IBRD team supporting a team of local experts headed by those from the Agricultural Planning Unit of the Ministry of Agriculture. The Terms of Reference, were determined in relation to the continuing

"poor performance of the Agricultural Sector and the necessity to examine the Sector critically to determine what remedial action should be taken".

The study examines the role currently required of the Sector; the role which it should play in relation to its resources; and measures necessary for achieving these goals, in a manner which would ensure the involvement and participation in the planning exercise of those engaged in the various activities of the Sector.

On the basis of the findings a "Green Paper" was prepared which includes the findings and recommendations of the study in relation to:

- Agricultural Land and Its Uses
- Small Farmers and their Operations
- Services to Agriculture - especially Agricultural Credit; Marketing; Cooperatives; Research Extensive Education; Administration
- Industry Studies - Sugar, Banana, Citrus, Coffee, Food Crops, Livestock & Livestock Products (including Fisheries)
- Government's Proposals for Action

Paper 4 - Emergency Production Plan for the year 1977/78.

Prepared against the background of the acute foreign exchange crisis and the government's mandate, provided by the elections of December 1976, to pursue its policy of social reforms and people-oriented programmes and the building of Democratic Socialism.



This dictated the basic parameters of the plan strategy to identify sources and means of mobilizing ideal domestic resources. The methodology adopted is that of:

- evaluating existing productive capacity in the principal production sectors of the economy;
- approximating production targets;
- estimating resources of foreign exchange, capital and manpower required; and
- specifying mobilisational and implementational implications of securing required resources and meeting production targets.

Included in the Plan Strategy is the proposal to develop Community Enterprise Organisation (CEOs) as a basis for re-construction and development. The CEOs were to be based inter alia, on the development of land and farming activities, and craft and cottage industries. Production targets are set for the various activities and cost projections are included.

4.8 Publication No. I-8 THE COMMUNAL ENTERPRISE by Jose Emilio Araujo, February 1980.

This paper is the first chapter of a book titled "The Communal Enterprise" by Dr. Jose Emilio Araujo, then Director General of IICA. He is largely responsible for initiating and encouraging work in the area of Communal Enterprise Organizations under the umbrella of the IICA system.

The subject deals with crucial problems associated with land tenure problems affecting developing countries, and the need for employing appropriate remedial agrarian reform techniques. It specifically addresses the necessity for taking into consideration social organisations and value orientations in economic planning efforts. The associative form of production, well-known in traditional societies, is one of the characteristics of Latin American Agrarian reform programmes.

Communal Enterprises have been made the subject of special research in the IICA system, for which a special programme of training and studies has been implemented. One of the major

aims is to achieve efficiency of operations by overcoming individualism of small farmers and peasants.

The inclusion of this document is to broaden the area of documentation available for use by Jamaica (and other English-speaking) members of the IICA system.

- 4.9 Publication No. I-9 HILLSIDE FARMING TECHNOLOGY - INTENSIVE SHORT COURSE by IICA and Ministry of Agriculture - 470 pages.

The Government of Jamaica attaches much importance to domestic production of food crops, import substitution, increasing farm incomes, increasing opportunities for rural employment and improving the levels of nutrition and the standard of living of rural people.

The terrain of the land in agriculture is very rugged, over 80% being hilly to mountainous. Small farmers who are responsible for the production of over 90% of the crops grown for domestic consumption as well as a significant portion of that grown for export, are located mainly on these hilly lands.

Due to the specific problems associated with crop production on these slopes the Ministry of Agriculture (Extension Division) and IICA jointly organized a 2 weeks' seminar which covered many technical aspects of hillside farming. The papers offered are presented in two (2) volumes.

- 4.10 Publication No. I-10 THE THEORY BEHIND THE COMMUNITY ENTERPRISE - SEMINAR IN JAMAICA by Jose Emilio Araujo, March 1978. 13 pages.

This publication which complements publication No. 8 titled "The Communal Enterprise" arose from an invitation from the then Minister of Agriculture, Mr. A. U. Belinfanti to present a seminar on Community Enterprises, with a view to learning more about the Latin American experiences with respect to community enterprises. Interested seminar participants would likely be drawn from staff of the following Ministries - Youth, Sports and Community Development; Prime Minister's



(Accelerated Land Reform Unit); and the Ministry of Agriculture.

The presentation covers inter alia:

- (i) Definition of Community Enterprises - their Orientation and Objectives.
- (ii) Advantages and disadvantages (economic and non-economic).
- (iii) Statements of various Governments regarding the Community Enterprise.
- (iv) Present Community Enterprises in Latin America - Definition and Achievements.
- (v) Suggested areas in which IICA-supported action should be programmed, e.g. the development via research of appropriate education and training strategies; suitable management systems; and necessary support services such as marketing, credit, technical assistance.

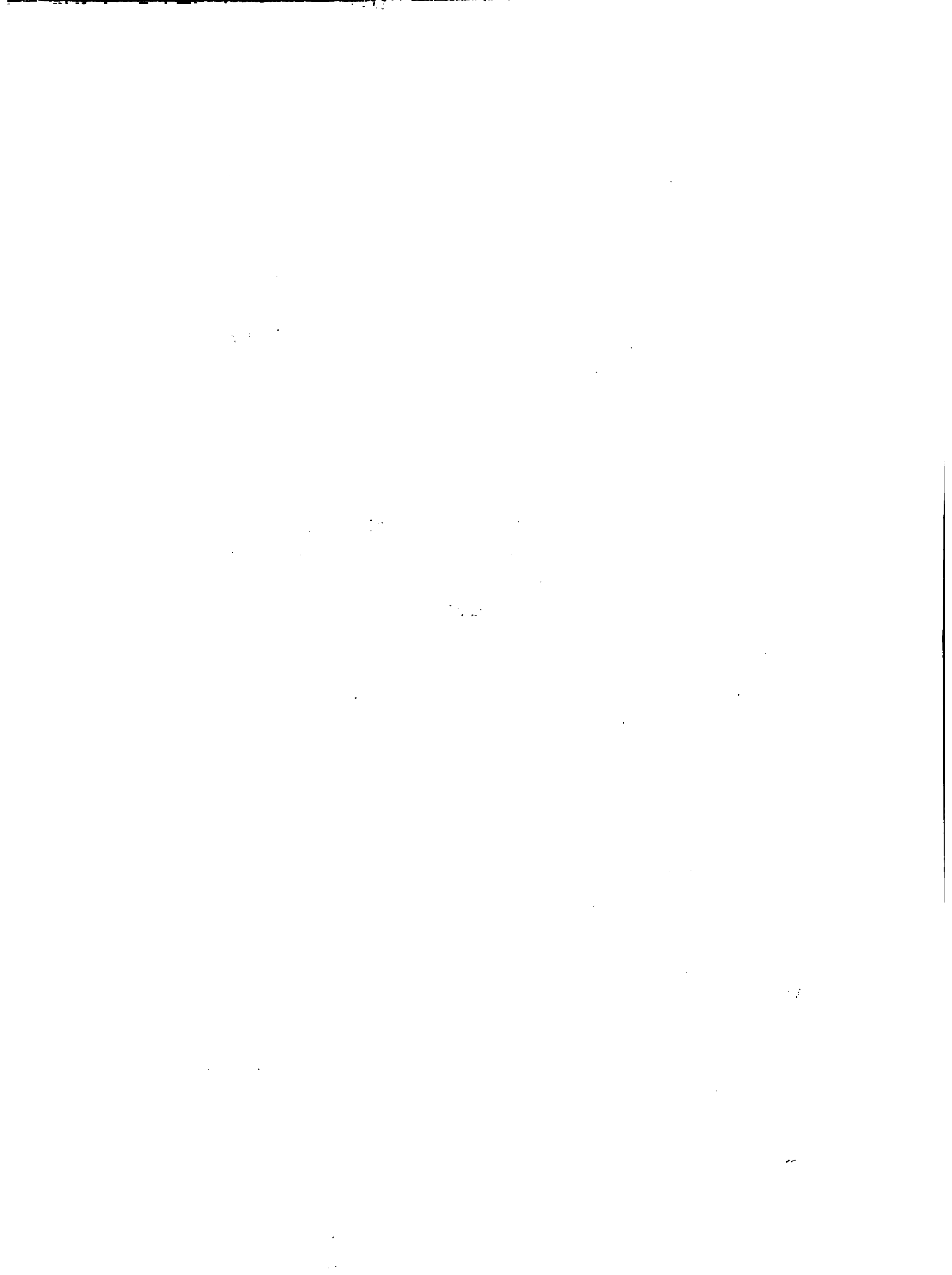
4.11 Publication No. I-11 A NATIONAL PROGRAMME FOR THE DEVELOPMENT OF HILLSIDE FARMING IN JAMAICA by Marie Strachan 31 pages + 5 Annexes + 5 Maps. The Summary of this paper states that it

"sets out proposals for the implementation of an Integrated Rural Development Project in selected hilly watersheds of Jamaica".

Development on the basis of the watershed concept is seen by the author as presenting special opportunities for achieving specific development goals:

- increasing domestic food production;
- improving the general well-being of people in the rural areas;
- reducing reliance on imported foods, thereby conserving vital foreign exchange.

The paper itself draws attention to the heavy element of employment which will be developed through implementation of the soil conservation works alone. It is observed that



since unavailability of level lands on the plains places a major constraint on food production, hillside farmers must continue to produce domestic food crops and in even greater quantities than in the past.

The most important requirement is stated to be that of providing appropriate soil conservation treatment. Essential basic infrastructural development listed includes: roads, bridges, health centres, improved rural housing, improved rural electrification, primary education, agricultural research, agricultural extension. The strategy includes land acquisition by Government for re-allocation to farmers; programmes under-propped by appropriate research, extension, marketing and credit, and appropriate training for both agricultural technicians and farmers.

Proposals are made for the establishment of temporary offices in the watersheds under the direction of the Soil Conservation Unit of the Ministry of Agriculture.

- 4.12 Publication No. I-12 BRIEF OVERALL DIAGNOSIS OF HILLSIDE FARMING IN JAMAICA by D. D. Henry, 58 pages. The documentation includes information on: physiography, land and soil resources, land distribution according to land capability classes and land use. Main soil types are described as are main farming systems, management practices and recommended practices. The situation on hillside farms is shown within that of the island taken as a whole. Comments are made on soil conservation measures suitable for local conditions and on the role of rainfall in creating risk and insecurity in crop production, especially on hillsides. Major farm programmes are described and tenurial systems listed - food farms, land lease, land authorities. The major services provided are discussed specifically in relation to production technology, marketing systems, credit and social institutions.

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- 4.13 Publication No. I-13 PRODUCTION AND MARKETING OF YAMS IN ALLSIDES AND CHRISTIANA by Neville Farquharson, May 1978. 95 pages.

This is a case study of the production and marketing of yams in the main yam growing area of Jamaica which includes Allsides in the parish of Trelawny. Allsides was the base of the FSB-financed Hillside project for which many cropping systems have been developed on bench-terraced land.

The study looks at production, storage, transportation, other elements of marketing, at demand and at social organization.

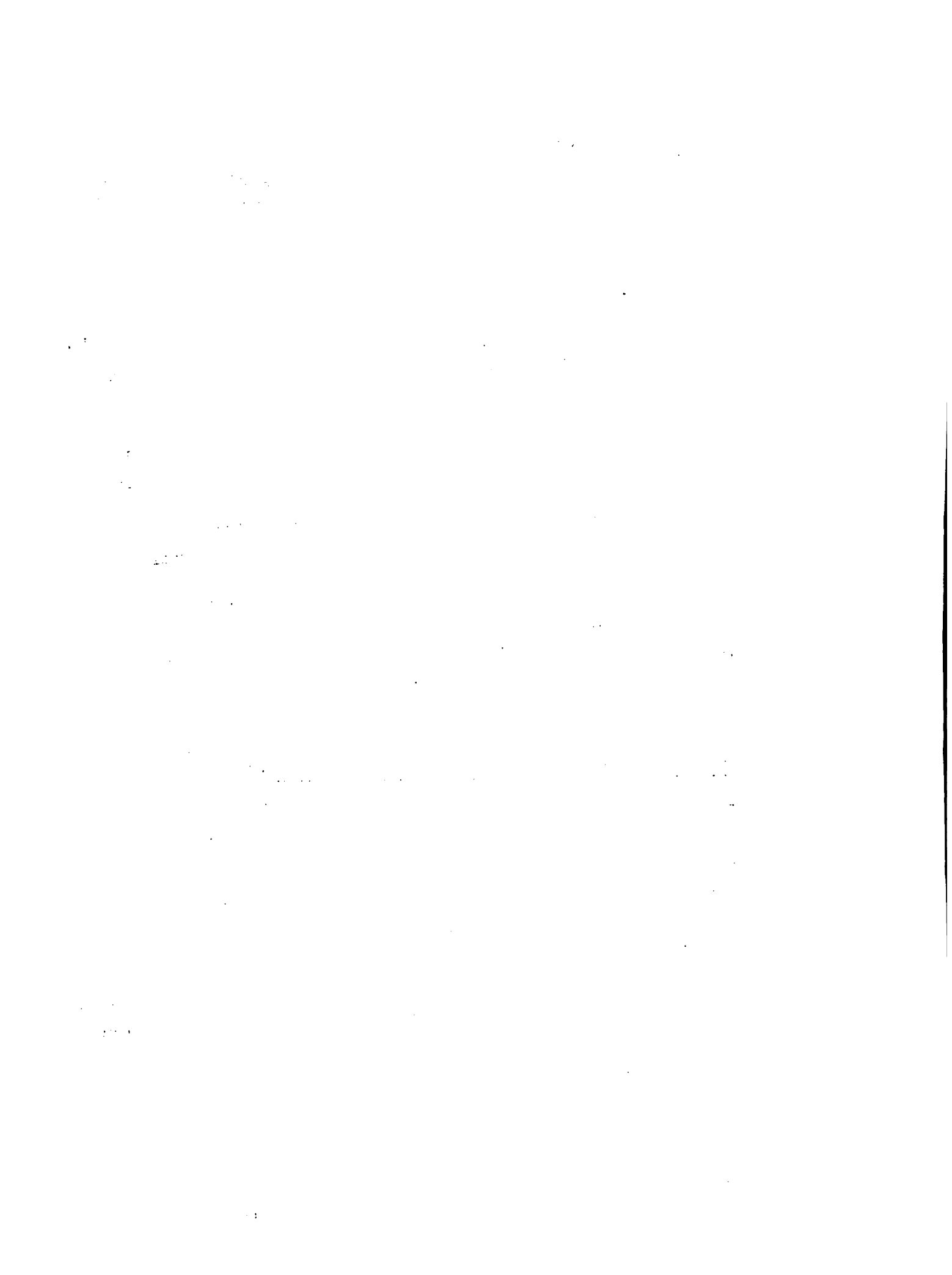
A field survey was carried out over a 4-week period from mid-March to mid-April 1978, during which time information was collected from a wide cross-section of persons including the farmers and distributors.

Major aspects treated in the study include the Higglers System and the Agricultural Marketing Corporation; limitations to the production and marketing of yams, financing and economic data such as prices, incomes.

- 4.14 Publication No. I-14 FERTILITY ASSESSMENT OF NEWLY TERRACED SOILS, USING THE MICRO-PLOT TECHNIQUE - THE ALLSIDES CASE STUDY by R. C. Harrison, E. McDonald and A. H. Wahab. 13 pages.

This technique is regarded as a rapid method for ascertaining the fertility status of soils. It applies to a miniature field trial of factorial design and in this instance uses corn (maize) as the indicator crop. The technique provides useful comparative data in a short time, which facilitates approximate assessment of fertilizer needs. It serves as an indicator of specific problems for future detailed investigations. The method is rapid, simple and inexpensive in terms of total resources required. The main criterion used for assessment is that of the yield of fresh green material.

Selected chemical properties of the test soil after terracing are used as a basis for further comparisons. The tests carried out indicate deficient chemical elements (also corroborated by



yields obtained and symptoms displayed) which on application are likely to provide quick responses, and those for which detailed studies should be undertaken to determine optimum levels of nutrients for specified crops on the Allsides terraces.

4.15 Publication No. I-15 COURSE IN THE PREPARATION AND EVALUATION OF AGRICULTURAL PROJECTS by IICA-IDB Vols. I (263 pages) and II (353 pages).

Following agreement No. ATN/TF-1370 RE between IICA and the IDB (signed in May 1975), which provided for the organisation in member countries of a training programme in "Preparation and Evaluation of Agricultural Projects" the Ministry of Agriculture, Jamaica, in June 1976 requested and obtained such a training programme for Jamaica.

The programme was carried out by means of theoretical courses and/or in-service training seminars designed to meet the following objectives:

- training specialized personnel in the preparation and evaluation of agricultural projects; and
- promoting in member countries the development of expertise within institutions responsible for the elaboration, evaluation and execution of agricultural projects.

This documentation presents in 2 Volumes the teaching material offered to the 23 participants of the theoretical course which took place during the period August 30 - November 12, 1976. Sponsoring agencies were IICA and the IDB.

Lecturers were drawn from a wide field of experts from IICA, IDB, Jamaica, University of the West Indies, Economic Development Institute of the World Bank. A Coordinating Committee headed by Nicot Julien of IICA/Jamaica directed the operation of the course. The subjects covered included the following:

Volume I

- Agricultural Projects by Isidoro Beraja 77
- Economic Efficiency and Cost Benefit Analysis by Lloyd Rankine 19



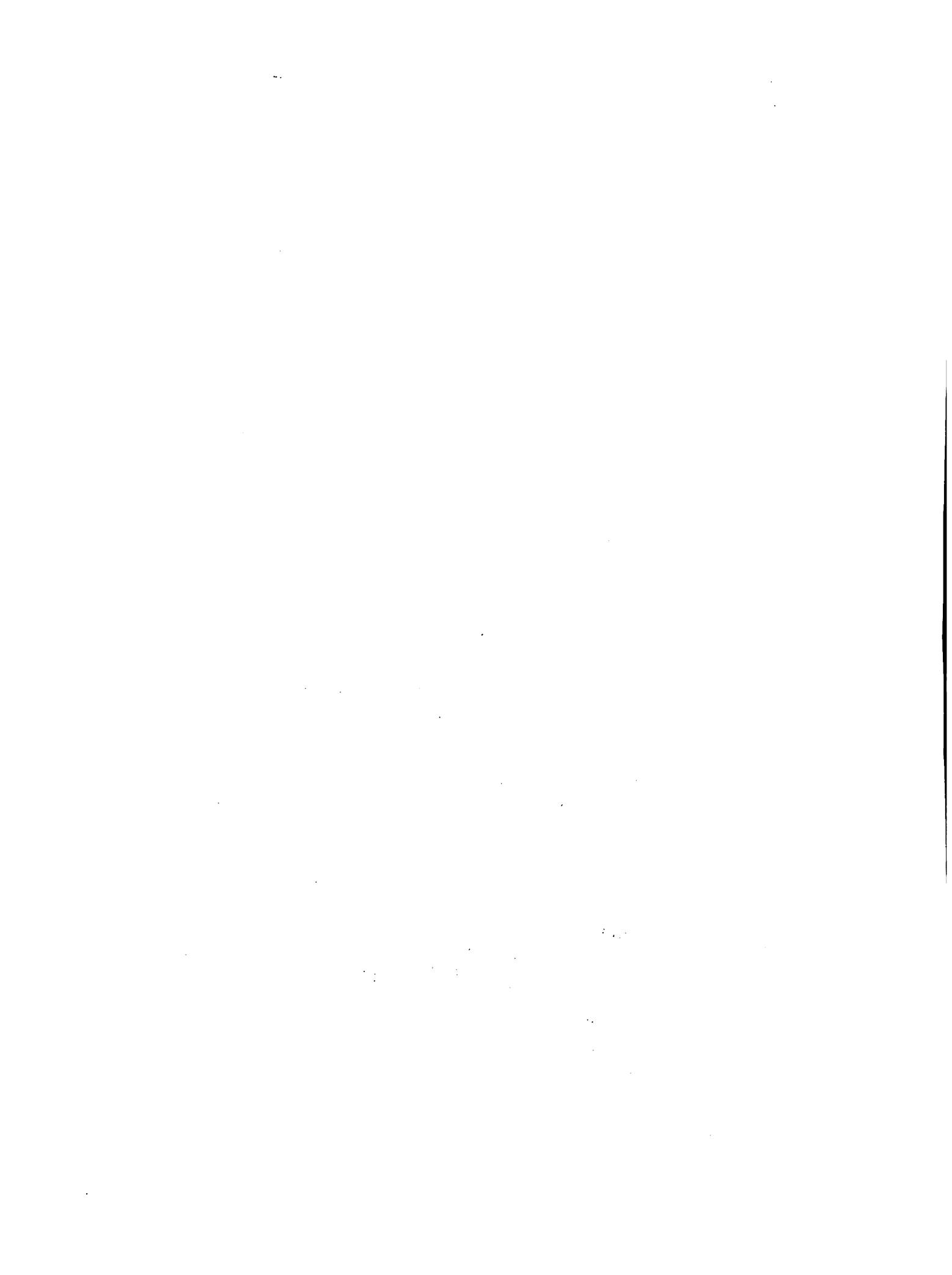
| | |
|--|-----------|
| - Market Mechanism by Joseph Johnson | 42 |
| - Agricultural Marketing Systems by Jose Luis Pando | 20 |
| - Functional Framw-work of Land and Cattle Commercialisation by Jose Luis Pando | 24 |
| - Economic Development by Irving Johnson | 68 |
| - Institutional Analysis by Richard Ogle | <u>13</u> |
| | 263 |

Volume II

| | |
|--|-----------|
| - Elements for the Diagnosis of the Agricultural Sector by Roy Russell | 33 |
| - Costs and Financing of Projects by Arnaldo Veras | 57 |
| - Exercise in Cost and Financing by Headley Brown | 14 |
| - Financial, Economic and Social Evaluation of Projects by Juan Antonio Aguirre | 52 |
| - Farm Income and Products Analysis by Maxwell Brown | 55 |
| - Administration of Projects by William Bailey | 47 |
| - Technical Aspects of Agricultural Projects by Rufo Bazan | 42 |
| - Project Management by Morris Solomon | 19 |
| - Report Preparation by Miguel Elvir | <u>34</u> |
| | 353 |
| Total of Vols. I and II..... | 616 |
| | === |

4.16 Publication No. I-16 PRODUCTION AND MARKETING OF
DASHEEN FROM ALLSIDES AND THE CHRISTIANA AREA OF
JAMAICA by Neville Farquaharson

This provides a companion study to that reported for publication No. 13 (Section 4.13). The format of the presentation is similar to that used in the previous document and the objectives are similar. The study examined production, marketing, transportation, storage and grading of dasheen, and also its potential demand and proposals for improvement of the dasheen "industry".



- 4.17 Publication No. II-1 AGRICULTURAL DOCUMENTATION AND INFORMATION NETWORK IN JAMAICA ELEMENTS FOR A PROPOSAL by O. Arboleda-Sepulveda of IICA-CIDIA. 34 pages. In 1975 Jamaica, through the Library of the Ministry of Agriculture began participation in the Inter-American Agricultural System (AGRINTER).

Participation involved training courses for the MINAG Librarian in the AGRINTER and AGRIS methodology, and promotional activities arranged by the IICA Office in Jamaica. These acted as a prelude for establishing a national information network and integrating it into regional and international information systems. Financing assistance was obtained from the International Development Research Centre (IDRC) of Canada.

In June 1978 MINAG's Data Bank and Project Evaluation Division and the IICA Office in Jamaica planned an activity with technical cooperation of CIDIA, in preparing a profile for the establishment of a National Agricultural Information Service (NAIS). This consisted of:

- (i) comments concerning government's existing involvement in agricultural information, by virtue of existing budgetary provisions;
- (ii) pressure points towards increased government involvement in improving and increasing agricultural information;
- (iii) analysis of the flow of agricultural information, which pointed to several areas of weakness; and
- (iv) proposals for establishment of an agricultural information network which involved national and related institutions.

Suggestions were made for the creation of a National Agricultural Information System (NAIS) within the framework of the National Development Plan.

This documentation No. II-1 sets out:

- (i) Benefits of a NAIS



- (ii) Positive aspects for the development of a NAIS.
- (iii) Objectives of the Proposal.
- (iv) Basic activities of the Proposal.
- (v) Organization of the Technical Services Unit.
- (vi) Various services including inventorization of agricultural documents; computerization of information; promotion of the NAIS: development of training programmes.
- (vii) Also included are: draft job description for staff, technical cooperation; long-term technical assistance.
- (viii) Expected results after formal establishment of the NAIS.

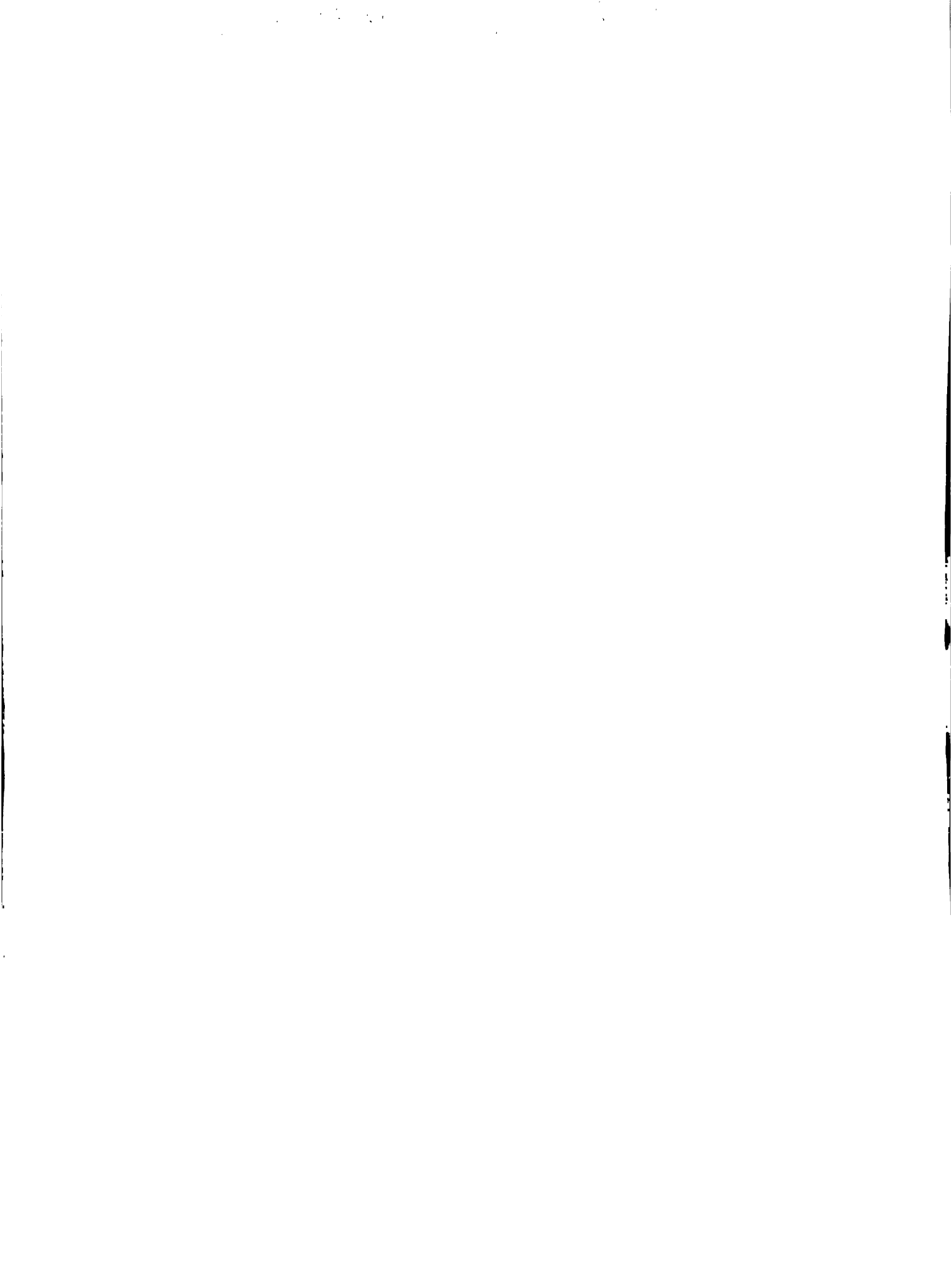
4.18 Publication No. II-2 NATIONAL AGRICULTURAL INFORMATION SYSTEM - PROJECT PROFILE by Victor Quiroga, September 1978. 34 pages.

This project profile was prepared in accordance with the principles, assumptions and concepts implied in publication No. II-1 (See Section 4.17). The outline of the profile consists of the following:

- (i) Introduction - including Frame of Reference and Scope.
- (ii) Objectives - General and Specific
- (iii) Goals
- (iv) Attainment of Objectives
- (v) Description of the System
- (vi) Stages of Execution
- (vii) Benefits expected
- (viii) Beneficiaries
- (ix) Participating Organizations
- (x) Activities
- (xi) Organization and Budget

4.19 Publication No. II-3 A REVIEW ON LAND REFORM IN JAMAICA FOR THE PERIOD 1972 - 1978 by Joseph Johnson. 15 pages.

This publication provides a link between previous information provided in earlier papers (particularly No. I-6) (Section 4.6) and future developments in the important



area of land reform. The review appropriately makes scant reference to the Accelerated Land Reform Programme, concerning which little beyond a conceptualization existed at the time of the preparation of the document.

The publication introduces a number of new features; namely -

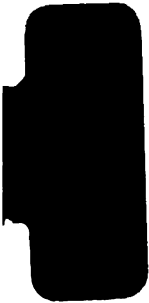
- Project Land Lease (Phases I, II and III)
- Sugar Workers' Cooperatives
- First Rural Development Project
- Integrated Rural Development Project
- Pioneer Farms

An important and far-reaching recommendation made in the publication refers to the necessity to take firmer measures against farmers who obtain land under land reform programmes but are not producing. It is also recommended that along with these measures improvements must be made in the marketing of domestic food crops.

4.20 Publication No. II-4 THE ABC OF VEGETABLE FARMING by Neville Farquaharson - Part I 116 pp; Part II 288 pp; Part III 144 pp; Part IV 102 pp.

- Part I - Botany and Soil Science
- Part II - General Practices in Growing Vegetables
- Part III - Growing the Different Vegetable Crops
- Part IV - Vegetable Trials and Other Field Work for Students

This activity was conceived by the IICA Office in Jamaica. Once it was possible to identify a person who was desirous of participating in such an activity, the next step was to obtain financial assistance for the preparation of a Draft textbook for High Schools. As conceived the draft preparation would be presented to appropriate personnel in the English-speaking member countries of the Caribbean for suggestions and modifications where appropriate. These suggestions would be made available to IICA's Public Information and Publication Division for further action. IICA/Jamaica was successful in obtaining financial assistance from the Office of the Canadian



High Commission in Jamaica and from the Royal Netherlands Embassy. The four volumes provide the draft presentation of the proposed book.

- 4.21 Publication No. II-5 ELEMENTS OF AN AGRICULTURAL MARKETING STRATEGY FOR JAMAICA by Jerry La Gra

This presentation looks at -

- Traditional marketing systems in the Caribbean
- Marketing problems
- Policy decisions
- Elements of a Marketing Strategy
- Summary of some IICA Marketing Activities with specific reference to Barbados, Costa Rica, Colombia, Guyana, Haiti, Dominican Republic and Venezuela.

Suggestions for technical cooperation agreement between IICA and GOJ for improving the marketing services in Jamaica.

- 4.22 Publication No. II-6 AGRICULTURAL EXTENSION SERVICE IN JAMAICA by D. D. Henry and I. E. Johnson. March 1979. 40 pages.

This publication traces the development of agricultural extension services in Jamaica on a formal basis from 1895. Emphasis is placed on the functions and organizations of various agencies which were involved in agricultural extension services, specifically the Jamaica Agricultural Society, Commodity Associations and the Ministry of Agriculture. Reference is also made to efforts to co-ordinate the activities of agencies and departments which are involved in agricultural extension to avoid duplication and overlapping. The important aspect of liaison between extension services and research is highlighted.

- 4.23 Publication No. III-1 WATERSHEDS OF JAMAICA AND CONSIDERATIONS FOR AN ORDINAL SCALE OF THEIR DEVELOPMENT by H. R. Stennett, July 1979. 75 pages.

This publication focuses on the division of the island into definable watersheds. It sets out the problems, features -

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physical, climatic, socio-economic - associated with these watersheds and makes proposals for providing more detailed information for the purpose of using cultivated slopes in humid tropical countries such as Jamaica.

- 4.24 Publication No. III-2 HILLSIDE FARMING IN JAMAICA - PROCEEDINGS OF TRAINING SEMINAR Ministry of Agriculture and IICA/Jamaica, December 1978.

The scarcity of agricultural land and the intensive use of hillside land for agriculture by small farmers in Jamaica for producing the bulk of the food grown for domestic consumption have led governments to pay greater attention to the conservation of soils on these steep hillsides.

The main objective of the seminar was to update local information and research in:

- Techniques related to food production on hilly lands;
- Soil loss using controlled conservation measures for hilly lands;
- Farming systems which have demonstrated a potential for increasing food (especially grain legumes and tree crops) production on hilly lands.

Participants included Researchers and Extension Specialists, mainly from -

Ministry of Agriculture

Banana Board

Coffee Board

CARDI

UWI - Faculty of Agriculture

IICA

- 4.25 Publication No. III-3 PERFORMANCE OF SIX VARIETIES OF RED PEAS (PHASEOLUS VULGARIS L.) ON A NEWLY TERRACED ULTISOL IN JAMAICA by A. L. Wright, A. H. Wahab and H. Murray, September 1979. 7 pages.

Bench-terracing to the extent carried out in soil-conserving land on the Allsides project site seriously disturbs the soil structure and affects the nutrient



status and other conditions affecting plant growth. For this reason it became necessary at the outset of the Allsides project to determine not only the nutrient and fertility status of the terraced land but also the extent to which economic crops would grow satisfactorily in these considerably disturbed soils. Comparative performance of the 6 Phaseolus varieties is discussed in this publication.

- 4.26 Publication No. III-4 AGRO-SOCIO-ECONOMIC SAMPLE SURVEY OF ALLSIDES - TRELAWNY, JAMAICA by IICA/Jamaica Staff, September 1979

This survey determines in more precise terms agronomic data and, in addition, socio-economic information concerning the farm families of the Allsides Pilot Project area who were expected to be the immediate beneficiaries. The intention was to obtain information on farming practices, living conditions and cultural habits which could be used to test the socio-economic viability of the farming systems developed by the project for adoption by the farmers.

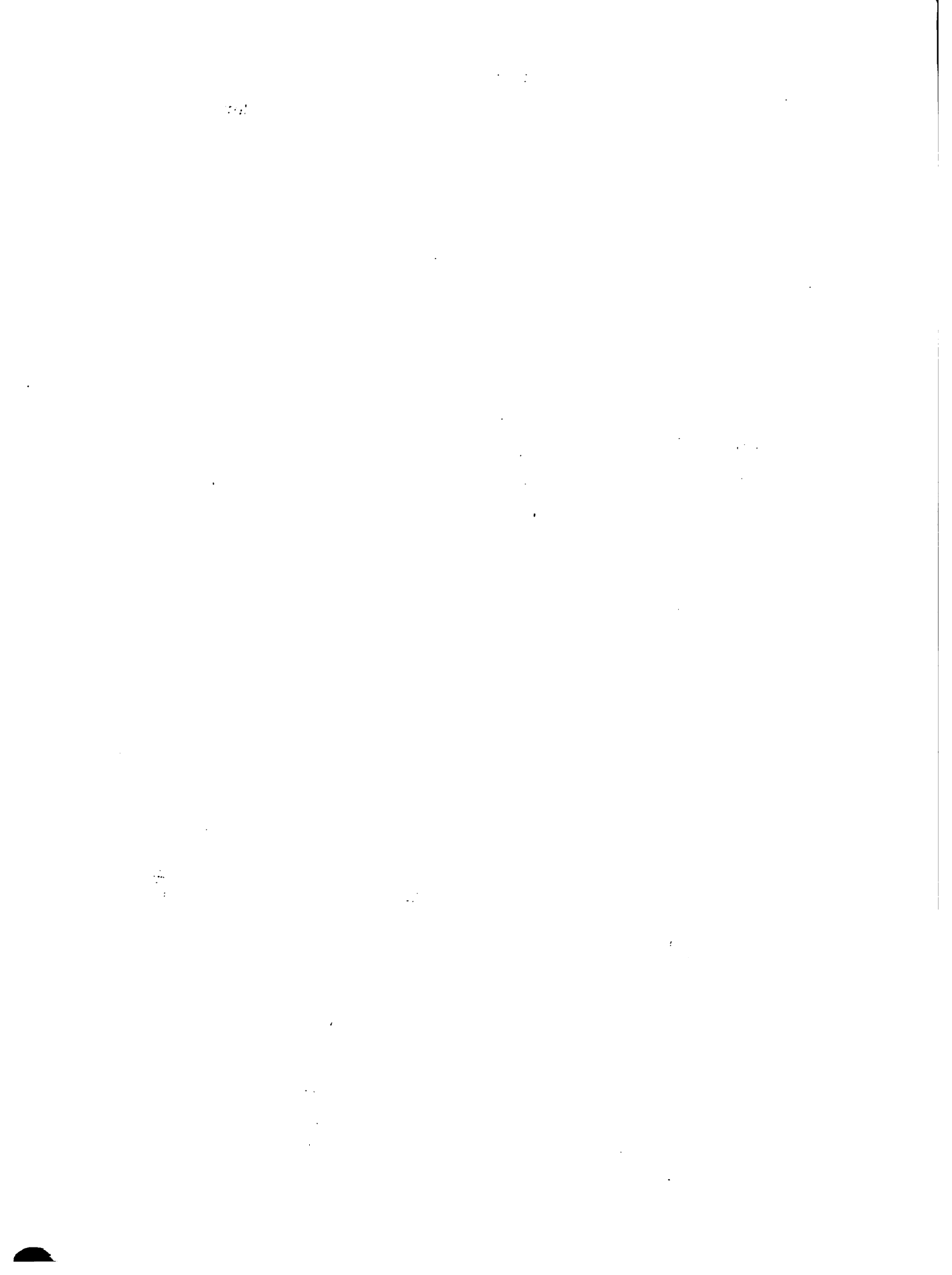
The study was undertaken with the assistance of MINAG personnel, especially those from the Data Bank and Evaluation Unit.

The universe surveyed had 233 farmers from which a sample was drawn. The sample was proportional, stratified and randomly chosen, consisting of 70 farmers, thereafter reduced to 59, as the actual adjusted sample size or 25% of the overall farmer population of 233.

- 4.27 Publication No. III-5 AN APPROACH TO AGRICULTURAL SETTLEMENT OF HILLY LANDS by Ministry of Agriculture and Staff of IICA/Jamaica.

Proceedings of Papers presented at Residential Training Course for Divisional and Area Extension Officers. May 7 - 18, 1979, 152 pages.

The scarcity of agricultural land and the necessity to use steep hillside lands for satisfying land hunger, have necessitated an examination and appraisal of the systems used in



agricultural land settlement on hilly lands and some of the important parameters to be considered. The lectures covered topics in the areas of:

- Soils and Soil Conservation
- Rural Physical Planning (including sociological implications)
- Crops and Crop Nutrition
- Crop - Soil - Water Relations
- Cropping Systems
- Agricultural Extension

- 4.28 Publication No. III-6 TREE CROPS OF ECONOMIC IMPORTANCE TO HILLSIDE FARMERS IN JAMAICA - Seminar presented June 19 - June 21, 1979 by Ministry of Agriculture and IICA. The Proceedings are presented in this publication. 86 pages.

Many of the earlier papers and publications have dealt with short-term crops usually grown extensively under conditions which are prone to serious soil erosion problems. Some small farmers plant economic tree crops on hilly lands. The purpose of the Seminar was to provide information which complements that presented in Section 4.28, and to emphasize the use of tree crops as an extensive way of using hilly lands economically.

- 4.29 Publication No. III - 7 PRODUCTION AND MARKETING OF PEANUTS by Canute McLean, November 1979, 37 pages.

On the basis of the performance of the most economically viable cropping systems resulting from the adaptive research carried out in the Allsides Pilot Project, the peanut was identified to be one of the crops having a high potential for success under the intensive measures employed. This publication presents a case study of local peanut production, its potential for hillside production, and provides a useful input for further studies related to development of the peanut industry in Jamaica. The presentation covers the important agronomic and economic aspects of peanut production.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It also highlights the need for regular audits to ensure compliance with financial regulations.

Conclusion

3. In summary, the document emphasizes the critical role of transparency and accountability in financial management.

4. The final section provides a list of key takeaways for stakeholders.

5. Overall, the document serves as a comprehensive guide for improving financial practices.

6. The author expresses hope that these insights will be valuable to all readers.

7. Thank you for your attention and interest in this subject.

8. The document is available for download at the following link:

9. For more information, please contact the author at the email address provided below.

- 4.30 Publication No. IV-1 PRODUCTION AND MARKETING OF RED PEAS IN THE HILLY AREAS OF JAMAICA by J. S. Johnson, January 1980. 39 pages.

Red Peas (Phaseolus vulgaris L.) otherwise known as red beans is one of the favourite legumes used for food by the Jamaican population. It is produced largely by small farmers on hilly lands. Recognizing its potential studies were undertaken, which were discussed in Publication No. III-3 (See Section 4.25 above). This publication (IV-1) presents studies of red peas in a manner similar to that in which the study on peanuts was presented in Publication No. III-7, in Section 4.29 above.

- 4.31 Publication No. IV-2 RURAL WOMEN - AN ANNOTATED BIBLIOGRAPHY WITH SPECIAL REFERENCE TO JAMAICA by Lyn Snuffer, January 1980. 29 pages.

Consequent on IICA's implementation of a new policy in September 1979, designed to involve and integrate women in a positive manner in rural development programmes of member countries, the Institutional Committee for Rural Women was created. Jamaica was selected as the first country in the Caribbean for the initiation of this programme, joining Honduras in Central America, Ecuador in the Andean area of South America and Brasil in the South American Atlantic area.

In view of the scarcity of documentation on rural women, this Annotated Bibliography was prepared and is presented in Publication No. IV-2.

- 4.32 Publication No. IV-3 RESPONSE OF PEANUT (ARACHIS HYPOGAEA L) ON A NEWLY TERRACED ULTISOL IN JAMAICA by Vincent Campbell, Abdul Wahab, Howard Murray, 18 pages.

The study reported in this publication forms a part of the investigations carried out in relation to the Allsides Pilot Development Project. It is designed to provide additional technical information on the production of peanuts on hilly lands, specifically with respect to the nutrient requirements on newly terraced land.



- 4.33 Publication No. IV-4 AGRO-SOCIO-ECONOMIC SURVEY - PILOT HILLSIDE AGRICULTURAL PROJECT (PHILAGRIP), SOUTHERN TRELAWNY, February 1980. by P. Aitken, A. Wahab, I. Johnson, A. Sahney. 33 pages and 177 Tables.

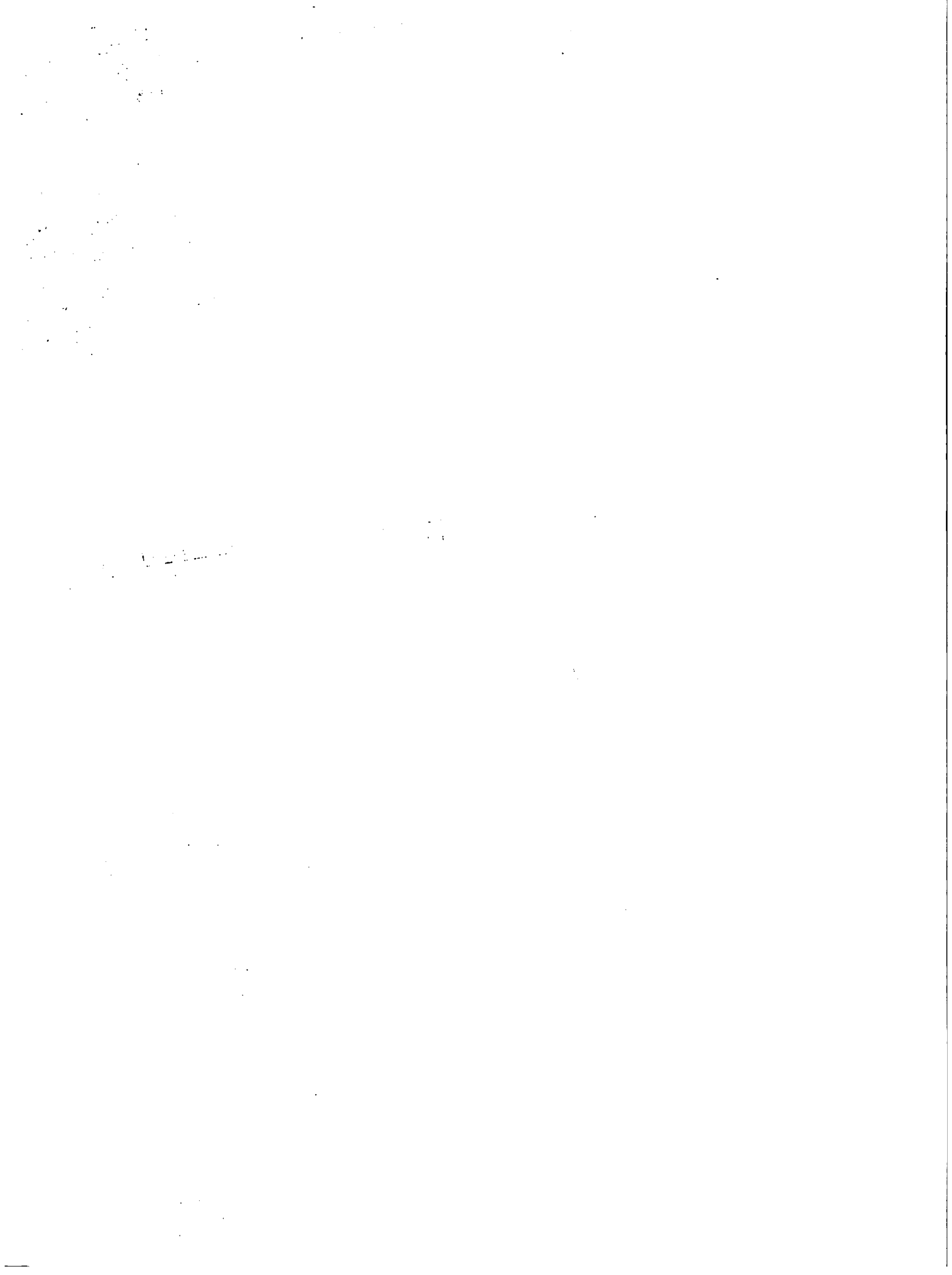
This publication presents information showing farming practices, agricultural technology, value orientations and economic performance profile of the beneficiaries of the proposed PILOT HILLSIDE AGRICULTURAL PROJECT (PHILAGRIP), to be financed by the Inter-American Development Bank (IDB). It was necessary to prepare a social organization component requiring agro-socio-economic information. This publication discusses the survey carried out to obtain the information and presents:

- The Methodology
- The Questionnaire
- Highlights of the Tables; and
- Tables (177)

- 4.34 Publication No. IV-5 BIBLIOGRAPHY OF LITERATURE RELATING TO RESEARCH AND DEVELOPMENT IN THE AGRICULTURAL SECTOR OF JAMAICA, 1959 - 1979 by Glenys Barker, March 1980. 207 pages.

The preparation of this publication arose largely out of the non-existence of a bibliography of documents covering the field of agriculture. Additionally there has been a pronounced need for more documented technical agricultural information in Jamaica. While it is true that some information exists, much of this resides in MINAG files or on the shelves of MINAG Offices, and much has not been documented at all but resides in the minds of the technicians. Some of what was available for general usage was not distributed; some of what should have been available, for specific if not for general usage, was often not in the form in which it could be distributed. Additionally, there was the complicated problem of authorship. It was indicated that MINAG's resources for supporting the collecting and listing of available material is very limited.

The IICA/Office in Jamaica found that although there are many qualified persons in the agricultural sector, especially that



of the government sub-sector, there was a great reluctance to commit technical information to writing. The IICA/Jamaica Office therefore has been encouraging the preparation and publication of documents but as a first step requested and obtained agreement and collaboration with relevant MINAG staff in determining what was currently available. That was achieved by means of a questionnaire.

In the Foreword to the presentation the hope is expressed that the Bibliography (copies of which were widely distributed in the Ministry of Agriculture) would encourage Jamaican scientists to continue to prepare technical papers in a manner which will contribute to the collection of documents at the disposal of the Library of the Ministry of Agriculture, and at the same time enhance the individual reputation and expertise of the authors. In view of the volume of information to be collected and the scope of the work involved the Bibliography covers a 20 year period, 1959 - 1979.

- 4.35 Publication No. IV-6 ALLSIDES FARMERS' PRE-COOPERATIVE - A SOCIO-ECONOMIC ASSESSMENT by Milton R. Wedderburn, March 1980. 34 pages and 17 Appendices.

The technical package of practices derived for the development of the cropping systems at Allsides includes resources for soil and crop management. The formulation of this technical package implies the availability of such inputs as seeds, fertilizers, insecticides, tools etc. These inputs reach the project area at unit costs which are virtually prohibitive for farmers and this seriously curtails their rate of adoption of improved practices.

Farmers, on the basis of their own assessments of their main problems and requirements, requested the creation of a cooperative. The Allsides Pre-Cooperative was formed as a prelude for the creation of that cooperative. It was programmed to have field days, exchange ideas and to serve as an integrative institution for the benefit of farmers.

The publication sets out the justification for the creation of the pre-cooperative.



- 4.36 Publication No. IV-7 THE ROLE OF WOMEN IN THE DEVELOPMENT PROCESS by Adele J. Wint, April 1980. 76 pages and 5 Appendices.

In December 1975 the United Nations' General Assembly adopted a resolution for establishing the period 1976 - 1985 as the "Decade for Women", to be devoted to effective and sustained national regional and international action to implement the World Plan of Action, and called upon governmental and non-governmental organizations to aid in carrying out the action plan.

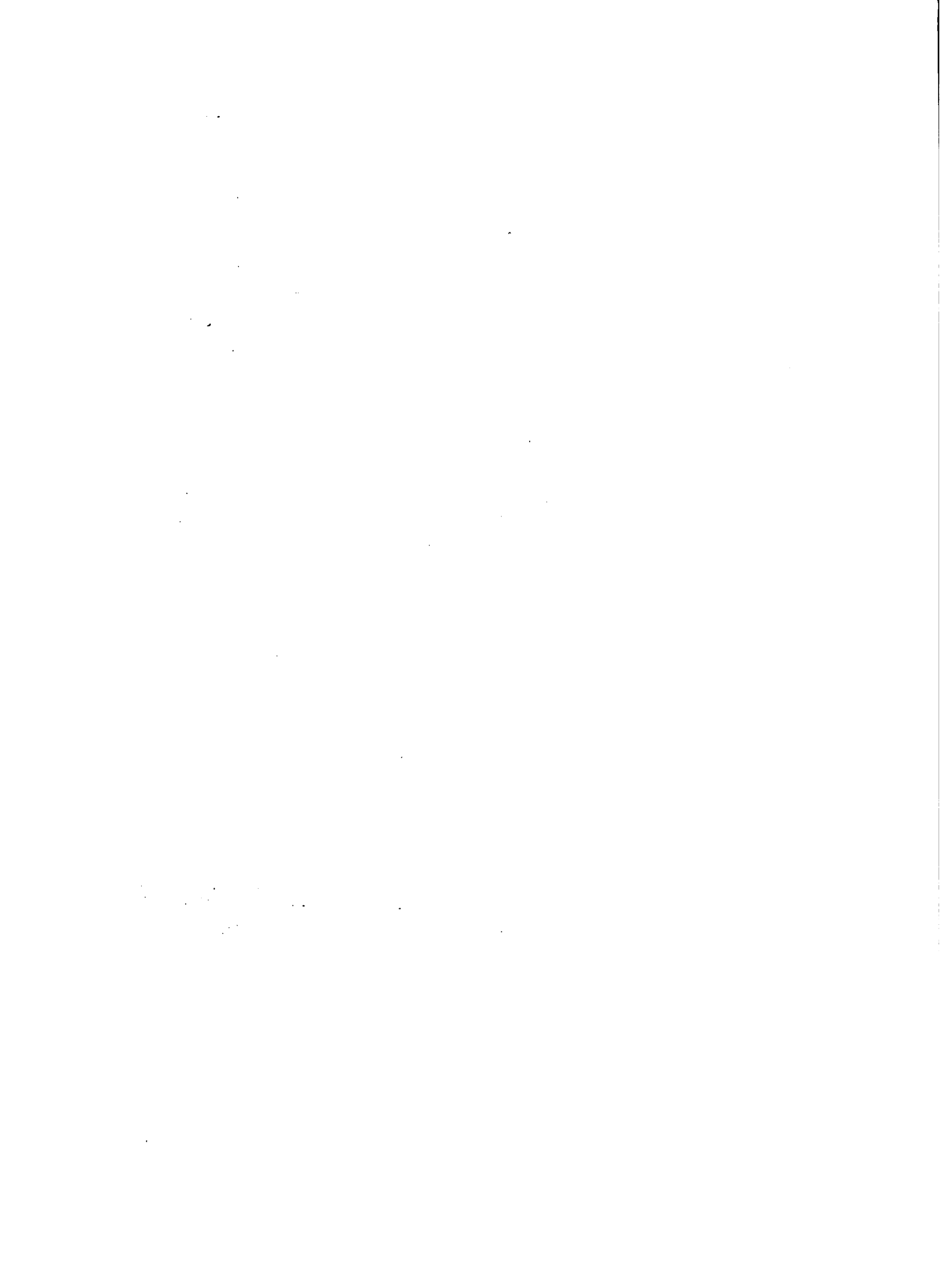
During the last few decades Jamaican women have been contributing to a greater extent to the development processes of their country. With a view to participating in the policy declared by IICA in 1979 in initiating a Hemispherical Rural Women's Programme for the Regions, Jamaica was made the base for such a programme for the English-speaking member countries of IICA.

This publication provides a useful contribution to the benchmarks necessary for assessing the Jamaican position. It covers important aspects dealing with such aspects as:

- the status of Jamaican women;
- enactments by GOJ, designed to improve the rights of women; and
- current programmes designed to improve the competence of women.

- 4.37 Publication No. IV-8 THE COOPERATIVE INPUT IN THE DEVELOPMENT OF THE PILOT HILLSIDE AGRICULTURAL PROJECT (PHILAGRIP) by M.R. Wedderburn, April 1980. 32 pages.

One of the requirements for the formulation of the "PHILAGRIP" was the determination of appropriate arrangements for assisting farmers in reducing the high unit costs for key agricultural inputs which individual farmers have to pay. The proposal is that an associative institution, based on preliminary successes achieved with the Allsides Farmers' Pre-cooperative, is likely to attain the desired effects. This publication documents the detailed considerations for such a proposal.



- 4.38 Publication No. IV-9 RESEARCH AND DEVELOPMENT OF FRUIT TREES
Proceedings of Seminar given jointly by MINAG/IICA/CARDI,
June 1980. 73 pages.

This publication documents the proceedings of a seminar jointly sponsored by MINAG, IICA and CARDI. The Seminar was specifically designed to pin-point economic benefits to be gained from efficient use of hilly land in producing fruit trees while at the same time accommodating appropriate soil conservation measures.

- 4.39 Publication No. IV-10 TRADITIONAL SYSTEMS IN HILLSIDE FARMING
by Lancelot Henry, 22 pages.

This publication presents the ex-ante bench mark situations as they relate to hillside farming in Jamaica. The presentation underscores the importance of devising appropriate cropping systems for accommodation within the construct of the specific soil conservation measures applied. It also emphasizes the extent to which land on hillsides has been degraded through poor cultivation practices and unsound land-use.

Finally it indicates very clearly the lack of appropriate technology for using land of the slope and quality which most small farmers are forced through circumstances to utilize.

- 4.40 Publication No. IV-11 PILOT HILLSIDE AGRICULTURAL PROJECT
(PHILAGRIP), SOUTH TRELAWNY, JAMAICA, Vols. I, II, III by
MINAG, IICA/JAMAICA.

This Project was prepared by a team led by Dr. J. A. Aguirre (Chief of Project Preparation IICA Headquarters) and included Drs. I. E. Johnson, P. Aitken-Soux, Abdul H. Wahab and Bo Myeong Woo; Miss Lesly Puyol, with inputs from Dr. Roy Clifford, Dr. Ignacio Ansorena and Mr. Tsiao-Tsai Wang - Soil and Water Conservation Specialist.

The IDB in continuation of its policy for assisting Jamaica in its economic development embarked upon a programme of visits to development projects including the Allsides Project in the agricultural sector. On the basis of its assessment

the IDB was convinced that the GOJ required assistance in developing hillside agriculture along more efficient and intensive lines. This led to the preparation and signing of an "Agreement for Non-reimbursable Technical Cooperation" (Agreement #ATN/SF-1773-JA in May 1979 between GOJ and the IDB). It was stipulated that IICA should be contracted to prepare the project. An agreement to this effect, between GOJ and IICA was signed on January 7, 1980.

The IDB provided a sum of US\$49,500 to be used by IICA in preparing the project document. A supporting sum equivalent to US\$18,200 would be provided by GOJ to cover local and counterpart services. The project document would be designed to -

"analyze the viability of utilization of hillside lands by means of bench terracing or other soil conservation techniques, as a tool for improving agricultural productivity and levels of employment in hillside rural areas of Jamaica".

In broader terms this would lead to increased farm incomes and agricultural production; improve human nutrition and the standards of living of the farmers and their families. The main components of the project would be:

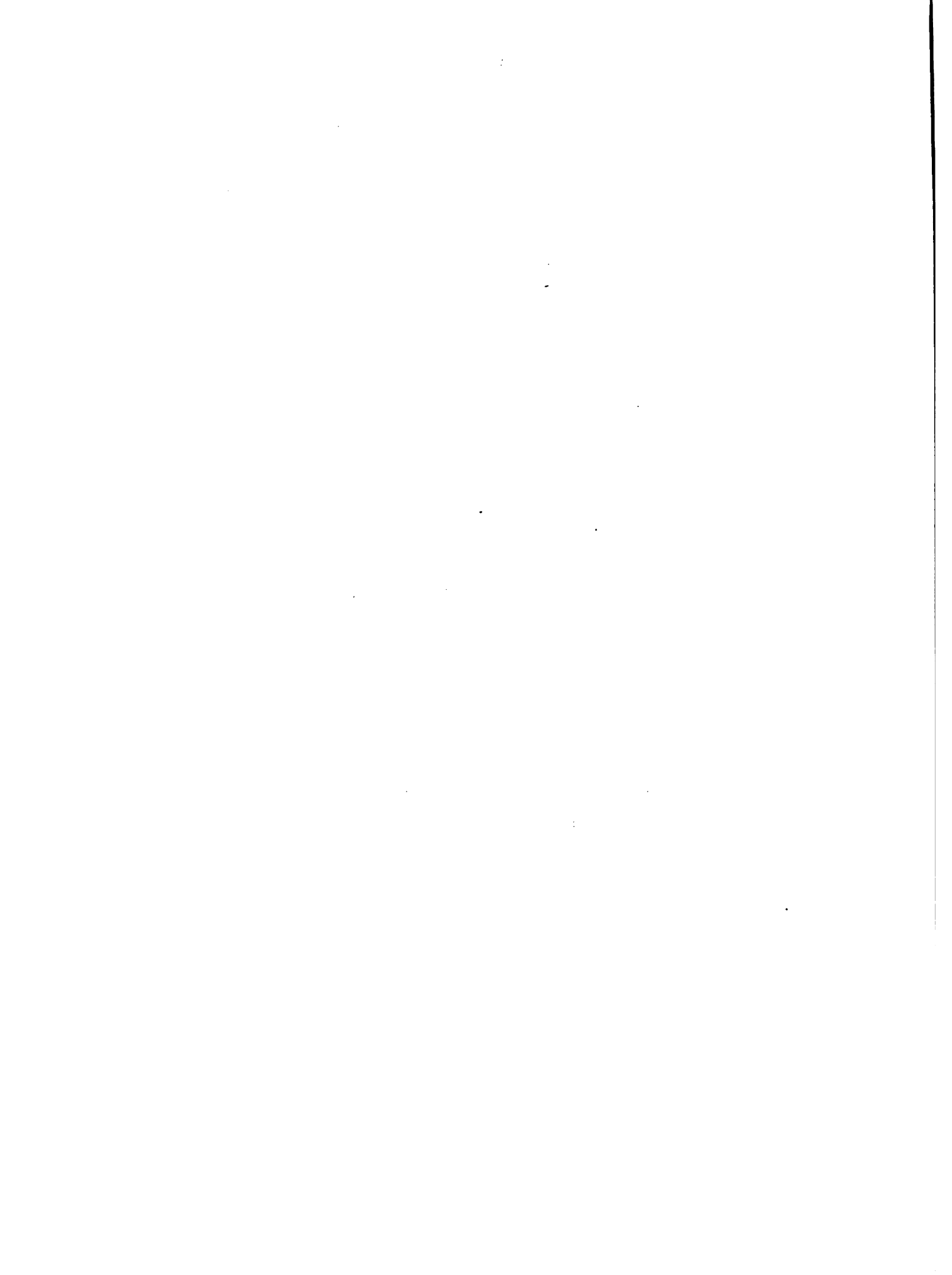
- the formulation of an appropriate soil conservation programme for the project area;
- the determination of appropriate food production systems for adoption by farmers;
- provision of technical assistance for project development, training of technicians and farmers;
- creation of suitable social organizations.

The IDB agreed to include in the financing package for project development:

- a grant for the soil conservation works; and
- a loan to cover production credit.

The Project indicates:

- costs
- technical inputs required



- farm models to be used
- social organizations to be created
- phasing of activities over the 3-year period for implementation agreed by the IDB and the GOJ
- economic benefits and rates of return.

Due to the high cost for terracing land, after 2 years of project implementation another objective was added, namely to identify alternative and less costly soil conservation methods. This work was started at Olive River in Trelawny, about 6 miles from the Allsides project site.

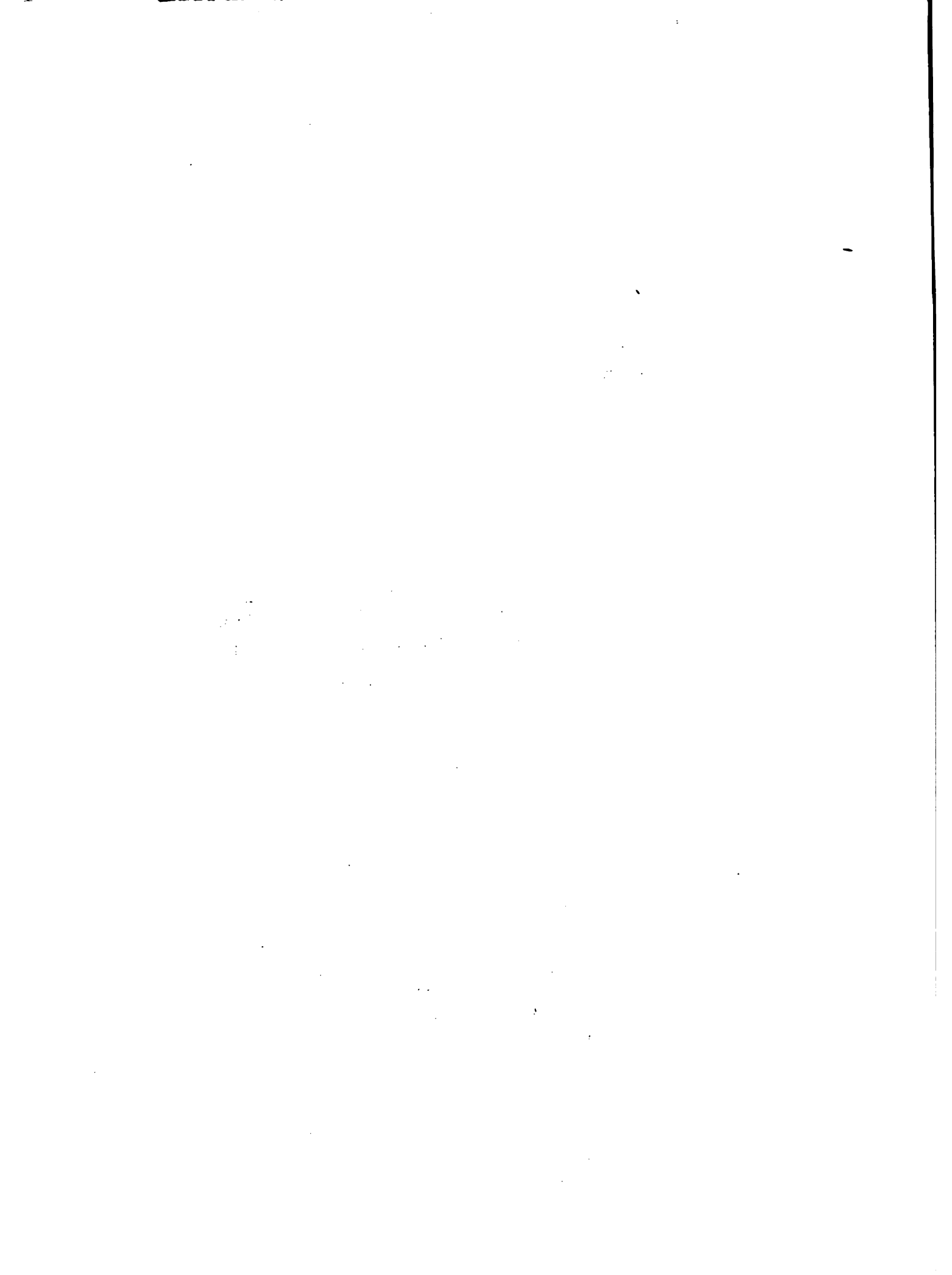
The presentation outlines:

- Strategy for achieving the project objectives.
- Experimental approach and methodology.
- Principal results and accomplishments (including preliminary results of the Olive River soil loss studies).
- Appropriate diagrams and isometric and sectional views.
- Input-output data.

4.41 Publication No. IV-12 HIGHLIGHTS OF THE PILOT HILLSIDE AGRICULTURAL PROJECT AT ALLSIDES by A. Wahab, I. Johnson, P. Aitken, Bo-Myeong Woo, H. Murray and H. Stennett. 34 pages.

This publication presents the more important aspects of the Allsides Pilot Project in the Parish of Trelawny. Earlier information obtained by MINAG, assisted by FAO, in a Soil Studies Project at Cascade in Hanover, provided a useful basis for bench-terracing land at Allsides and determining the most appropriate cropping systems for bench-terraced soil-conserved land. The Cascade study was essentially a soil-erosion - cum - conservation study. The main conclusions of which were:

- an average soil loss of 136t/ha/yr (= 54 t/acre/y), and an accompanying reduction in soil fertility and productivity were obtained from unprotected yam plots having a 17° slope.



- a comparable soil loss of 10t/ha/yr (= 7.3t/acre/yr) and accompanying improvement of soil fertility and productivity were obtained on when the plots were bench-terraced.

GOJ embarked on a soil conservation programme based on bench-terracing for slopes of 7° - 25° and the GOJ requested IICA's assistance for determining the most appropriate cropping systems for newly terraced lands at Allsides. IICA's Simon Bolivar programme provided external funding and the GOJ provided in-kind financing for local inputs.

PHILAGRIP is designed, inter alia, to determine the potential of the improved systems for:

- increasing levels of production and productivity;
- increasing farm incomes;
- enhancing nutritional profiles of farm families; and
- increasing opportunities for rural employment as a means for improving the quality of life of rural farm families.

- 4.42 Publication No. IV-13 BENCHMARK FOR A PROJECT PROFILE FOR DEVELOPING A PEANUT INDUSTRY IN JAMAICA by I. Johnson, A. Wahab, P. Aitken, H. Payne, July 1980. 84 pages + Annexes 54 pages.

Information is presented which can be exploited for the preparation of a structured and expanded peanut industry for Jamaica. The presentation is predicated on the fact that the potential local use of the peanut to a great extent has been unexploited. Specifically the information presented indicates that if consideration is given to the growing of peanuts for agro-industry extended to include the production of oil, human food and animal feeds, as well as soaps and detergents, then the potential use of the peanut could be considerably broadened.

Most of the other information provided indicates the magnitude of changes in some of the existing parameters.

Other main considerations are:

- Botanical, agronomic and ecological;
- Uses of the Peanut;
- Current local Industry development, including land availability, farming systems, production levels, production costs, and problems;
- Demand for Peanut and Products -
 - existing and potential for Jamaica
 - regional for CARICOM
- Farmer Organization, Marketing, Cooperative aspects, Financing;
- Rationale for the development of the local industry.

4.43 Publication No. IV-14 THE ALLSIDES POST PEASANTS

by P. Aitken, A. Wahab, I. Johnson. 22 pages.

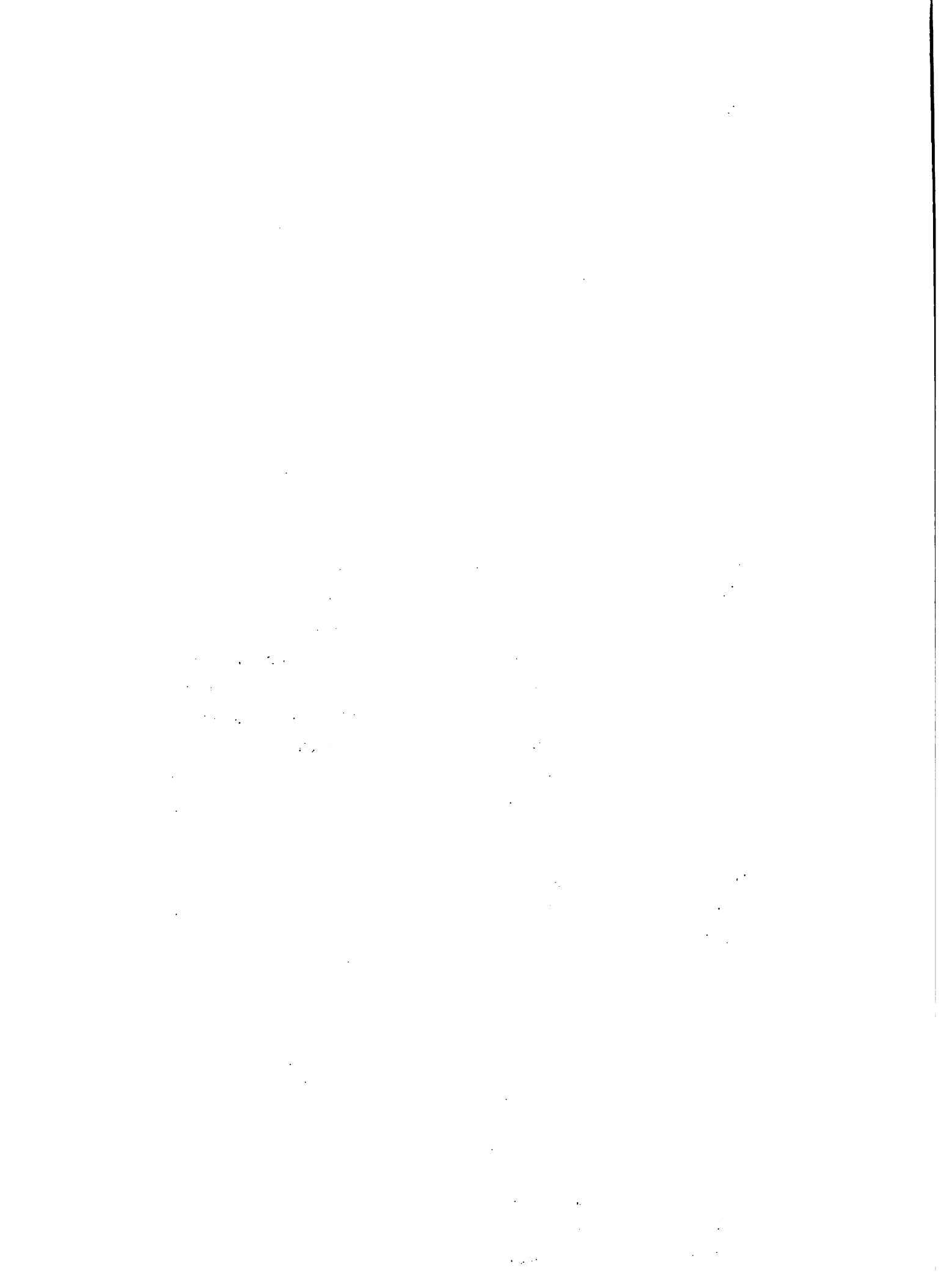
This is an internal document which presents a sociological assessment of the hillside small farmer, predicated on the paramountcy of social influence in economic planning for development. It highlights value orientations of the people and their social interactions based on information drawn largely from discussions with people and from agro-socio-economic surveys carried out for the Allsides project area and also for the PHILAGRIP area. It is designed to complement information collected and documented in other presentations.

In more precise terms an assessment is made of the Allsides community; ethnic origins and some cultural characteristics; the family and other social institutions; social stratification and socialization of the individual; major social problems of farmers; and rural urbanization.

4.44 Publication No. IV-15 SALT EXTRACTION BY SOLAR ENERGY

by Norma Munguia, Percy Aitken-Soux, Abdul Wahab, Irving Johnson - a Mini project, September 1980. 13 pages.

In realization of Government's stated priorities for increasing food production and employment opportunities, this mini-project seeks to combine the effects of increasing food production via increased fish production with that of



creating agro-industries which may be used to increase rural employment using low capital intensive solar energy.

- 4.45 Publication No. IV-16 THE ALLSIDES PROJECT IN JAMAICA - DEVELOPMENTAL POTENTIALS OF HILLSIDE AGRICULTURE by A. H. Wahab, P. Aitken-Soux, I. E. Johnson and H. Murray. September 1980. 16 pages + Appendices - 10 Tables and 20 Figures.

The Office of IICA/Jamaica was requested to participate in a Seminar on Rural Development held under the aegis of the Iowa State University, Ames, Iowa, U.S.A., September 29 - October 3, 1980. This publication is the paper presented at that Seminar. It uses the Allsides Project as a case study setting out inter alia: Project description, objectives, strategies for implementation, results achieved and policy implications.

- 4.46 Publication No. IV-7 RURAL WOMEN SURVEY Vols. I, II, III by P. Aitken, A. Wahab, I. Johnson, A. Sahney and N. Munguia. October 1980. 327 pages.

In the presentation of Publication No. IV-7, Section #4.36 reference was made to the emphasis being placed on rural women. In the preparation of the "PHILAGRIP" emphasis on surveys undertaken was placed on farmers, some of whom happened to be women. In this instance a survey was designed specifically for the purpose of obtaining information on the women in the households of farmers in the PHILAGRIP area of Southern Trelawny. The presentation includes the methodology used, the questionnaire, and a list of 312 Tables resulting from the tabulation of the data obtained.

- 4.47 Publication No. IV-18 ASSESSMENT OF EMPLOYMENT AMONG SMALL HILLSIDE FARMERS OF JAMAICA by P. Aitken, I. Johnson, A. Wahab, November 1980. 49 pages.

A complex statistic is that of employment, judging from the criteria used in defining employment of different types, and subsequently in identifying persons who fit into different employment categories.

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This publication presents an assessment of a relatively small area selected for development, but provides information which is likely to be similar to many situations in Jamaica.

4.48 Publication No. IV-19 PILOT HILLSIDE AGRICULTURAL PROJECT (PHILAGRIP) Final Project Document. October 1980. 157 pages.

This document is a revision of the original preparation which appeared in 3 volumes and a presentation of the project in one volume having the same number of six (6) sections as the previous Publication No. IV-11 (see section 4.40).

4.49 Publication No. IV-20 IICA EVALUATION OF THE FIRST PHASE FSB ALLSIDES PROJECT (Internal Document) November 1980.

Evaluations were undertaken by Heraclio Lombardo, Evaluation Division, IICA Headquarters; Hugo Cohan and Rufo Bazan also of Headquarters, and the Professional Staff of IICA/Jamaica Office. The total evaluation presented in this publication includes:

- (i) Introduction by Jose Emilio Araujo, Director General
- (ii) Review of Project design by Heraclio Lombardo
- (iii) Analysis of Pertinent and Currency of Project Design by P. Aitken, A. Wahab, I. Johnson - IICA/Jamaica Office
- (iv) Analysis of Project Progress and Causal Factors by A. Wahab, P. Aitken, I. Johnson
- (v) Preparation of Pertinent Conclusions and Recommendations by Hugo Cohan, Rufo Bazan, IICA/ Headquarters.

The Allsides Pilot Project which resulted from an agreement between GOJ and IICA/Jamaica in December 1976, was actually started in March 1977.

In the Introduction which is taken verbatim from a Boletin Interno, the Director General commented that the Project -

"is producing technology which could be applied to other countries in the Antilles.....
it is a methodological experience on administrative

development in its different aspects of planning, direction, co-ordination and control of a successful project.....an example of the potential of applied research for the agricultural sector and a better standard of living".

In the same context reference is made to the contribution which the experiences gained from the Allsides Project have made in generating action towards the formulation of the proposed PHILAGRIP, and the GOJ/UNDP/FAO/Norway Rural Development Project. The Director General noted the project's potential for adoption in other member countries of IICA.

Analysis of Pertinent and Currency of Project Objectives

Reference is made to changes in

- National problems
- National programmes and institutions
- Resources available to national institutions
- Widening scope of agencies with which IICA worked.

Comments are made on:

- emphasis placed on adaptive research in generating a body of knowledge for hillside agriculture;
- the pressing problems facing Jamaica as identified by the GOJ and PANP (Country Level Action Plan);
- agreement between staff of national institutions and of IICA on the strategies for solving the national problems associated with the project.

The IICA/Jamaica staff suggested that the GOJ, through its MINAG, should declare each of the 33 watershed areas as ~~declared~~ by the Soil Conservation Department a Management unit, in the belief that this would lead to a more holistic approach in solving rural development problems on a national basis. Suggestions were also made for the preparation of a package of projects - A-Productive; B-Social; and C-Institutional. The projects and sub-projects suggested would tend to make each watershed an integrated rural development project.



The national institutional staff shared with IICA/Jamaica the belief that the project objectives should remain unchanged. The major need was seen to be in the area of technology transfer.

Conclusions and Recommendations

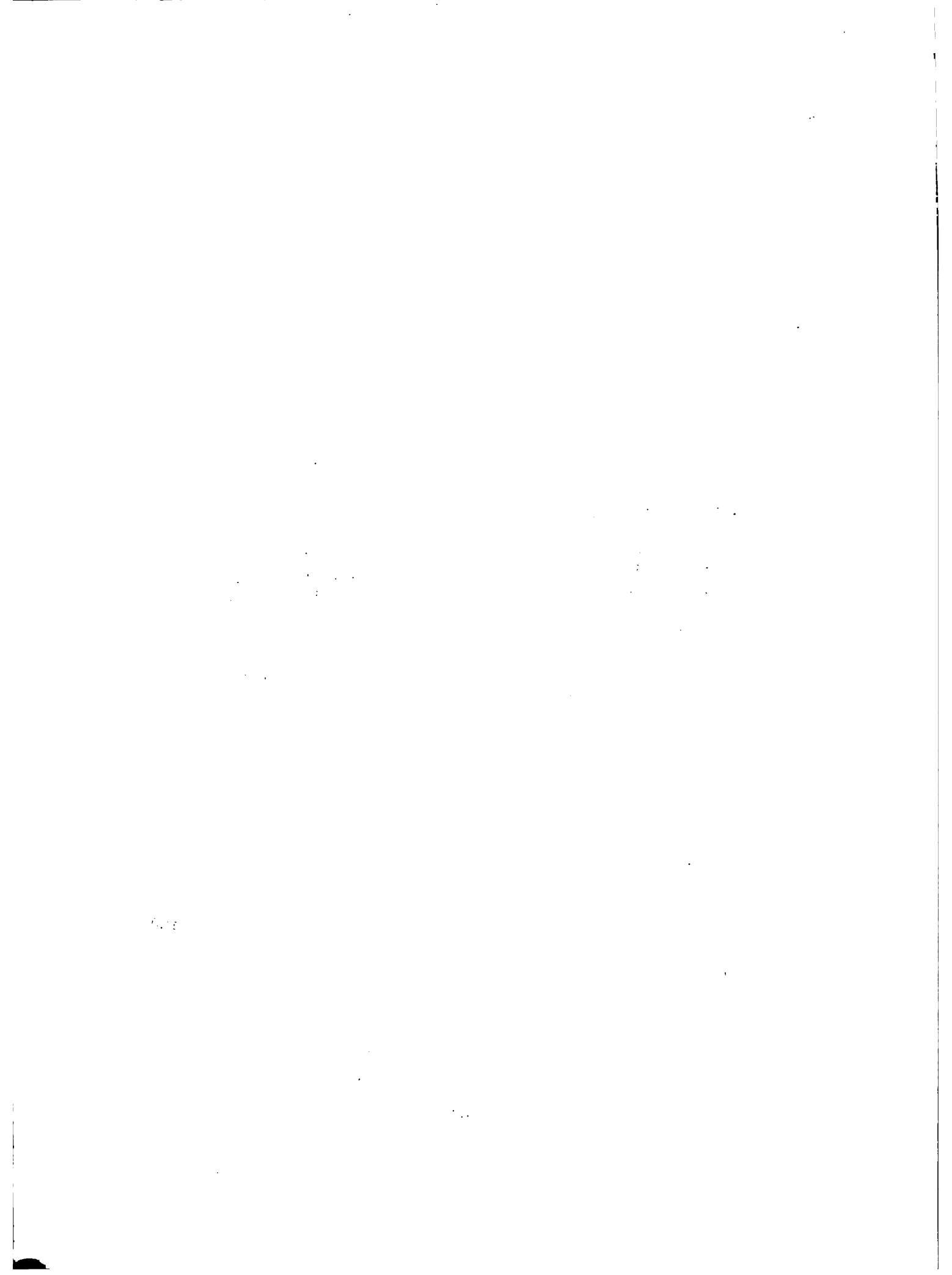
This is essentially the main evaluation of the Allsides Project in qualitative terms. The others provide a part of the information used in deriving the conclusions and the recommendations made. The Allsides Pilot Project is one of IICA's most high-density projects, based on reports and opinions made per unit of personnel or on-site costs. The Allsides project has assumed certain characteristics which make it extremely useful for the purpose of deriving lessons for preparing other projects. It is stated that -

- "the project document does not clearly define the responsibilities of the national organizations of IICA. Nevertheless these groups have maintained a clear mutual recognition of their respective areas of work;
- the IICA/Office and the FSB project have grown up together, for this project was the core that gave IICA credibility for its work in Jamaica;
- the strategy of institutional re-inforcement, widely used in other FSB projects, has been put into action and has inspired the joint efforts of national organizations".

Country Project

The evaluators made the following comments -

- (i) "the GOJ/IICA/FSB project does not distinguish between the country project and the IICA project, but it is evident that Food Production and Rural Employment are primary objectives for every rural project in Jamaica;
- (ii) although GOJ was given responsibility for extension and soil preparation no specific scheme was designed for their completion;
- (iii) objectives and goals ascribed to the GOJ were ambitious, particularly in view of its organisational and budgetary problems. GOJ motivation and IICA's contact with national organisations could only overcome some of these shortcomings in part".



Strategy

1. There was no pre-established strategy for meeting national commitments. However, the Co-ordinating Committee proved to be a useful tool for developing the joint GOJ/IICA strategy.
2. The strategy implicit in the GOJ Project has been the object of repeated criticisms from Headquarters, based on the feeling that a single experimental field is insufficient for achieving any significant effects, in terms of the well-being of the rural population (in this case that of Allsides). In general terms, however, the strategy may be conceived as a useful approach in beginning to demonstrate to farmers the possibility of making improvements in their production processes.
3. The Allsides (including Olive River) experiments are thought by the evaluators to have created an imbalanced strategy. This, relates to the reality of seeing concrete achievements in the field beyond the realm of expectation on the one hand, and the restricted distribution of information on the other.
4. Many had foreseen the problem of inadequate extension and low levels of adoption of improved practices prior to project implementation. Non-compliance with responsibility for these aspects in the Project agreement has now led to less emphasis on their provision, now that the project is virtually completed.

The evaluators stated that:

"International technical cooperation personnel must acknowledge the difficulties which attend efforts to achieve a successful (balanced) project.

Nonetheless, they felt that high levels of effectiveness should not be expected, nor will all objectives be met in such projects. The view of development in relation to achieving imbalance has faced difficult realities, not limited to Jamaica alone. Such a concept of imbalance has been achieved by the IICA/FSB/Ja project which time, Office actions and the response of the GOJ will combine to determine whether or not "this desirable situation of greater social performance can be established at any given moment".



IICA's support is required in formally defining the country project. The projected goals were partially achieved. There are other national projects for farming hilly zones, which are receiving resources from different sources other than IICA, but in which IICA is making a technical contribution. These have reached different stages of formulation and implementation. Three (3) general objectives are specified by the evaluators for cooperating with national organizations namely:

1. "Development of a body of knowledge on hillside farming and cropping systems conducive to changing the traditional pattern of hillside land farming (IICA responsible).
2. Spread of knowledge throughout the pilot area (GOJ responsible).
3. Extending pilot area results to the whole hillside region (GOJ responsible)".

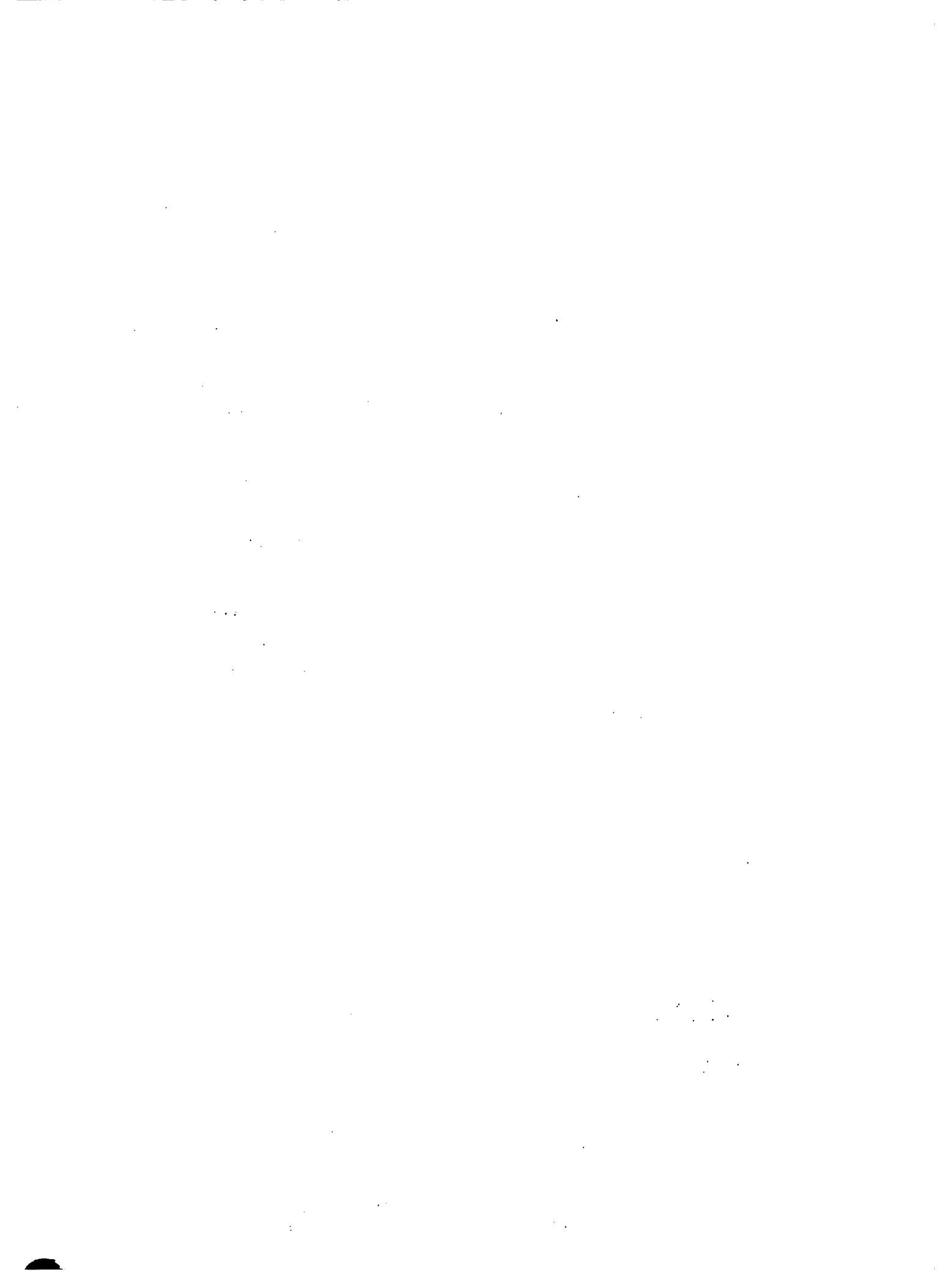
The Institution-building strategy pursued by the project, and the model used for the FSB project in Jamaica involves -

- "demonstrating the ability to produce results in the field;
- making the findings generally available; and
- helping to build up national capabilities for programming and implementing projects".

Major Accomplishments

The evaluators conclude that the project has resulted in:

- "A body of previously unavailable knowledge on profitable production systems for hilly zones in Jamaica, to make efficient use of soil and water resources.
- A new concern for spreading the use of systems through field days (farmer-visits), six-week course for students, regular visits and seminars for specialists throughout the country;
- A proposal for increasing the target areas as an expanded pilot experiment, through a project to be financed by the IDB (prepared with strong support from IICA) (PHILAGRIP); and
- The application of Allsides' systems to experimental GOJ fields in Smithfield and Sweetwater".



- 4.50 Publication No. IV-21 SEMINAR ON MULTIPLE CROPPING
by MINAG/IICA/CARDI - Proceedings December 1980. 125 pages.

The Research and Development Department of MINAG in association with IICA and CARDI sponsored a one-day seminar at the JSA auditorium on December 4, 1980, on the topic of Cropping Systems. It was proposed that emphasis be placed on evaluating existing cropping systems and closely related practices, and seeking ways of adopting and improving them where found to be efficient and feasible.

The topics covered in the Seminar include Development Potentials of Cropping System for Hillside Agriculture; Cropping Systems involving tree crops such as Banana, Coconut, Coffee/Forestry. The proceedings also include papers on the Role of Livestock in Cropping Systems and the Cropping Systems Approach to Crop Production in the Pindars River and Two Meetings Watershed Project.

- 4.51 Publication No. V-1 SMOKE CURING OF FISH (AS A HOUSEHOLD INDUSTRY IN RURAL JAMAICA) January 1981 by N. Munguia, P. Aitken et al 9 pages.

This presentation is timely in terms not only of meeting GOJ's objectives for food production and the generation of income and employment, but also of developing ancillary agro-industries from the expanding inland fishing industry. The implications are that adaptive research could be developed for refining measures for utilizing raw materials. Ultimately it is hoped to develop a substitute for salted fish products, if the price is right, and to develop an attractive industry for rural women.

- 4.52 Publication No. V-2 UNDER-EMPLOYMENT - ITS RELATION TO THE AGRICULTURAL SECTOR AND CONSIDERATIONS FOR ITS MANAGEMENT by P. Aitken-Soux, A. Wahab and I. Johnson. January 1981, 18 pages.

Although some statistics are available for calculating unemployment, using criteria which are sometimes questioned by technicians, it has not been possible to calculate under-employment with any degree of precision, largely due to the ineptness of the kinds of statistics often available.

Under-employment is disguised by social systems which "protect" and "carry" the unemployed as under-employed. Especially is this the case on family agricultural farms. Under-employment is especially typical of the small farming systems which have an excess of labour and a shortage of land.

This publication presents an evaluation of the situation which exists in the Allsides project area in "provocative" terms but with a view to generating further investigation of the position on a national scale.

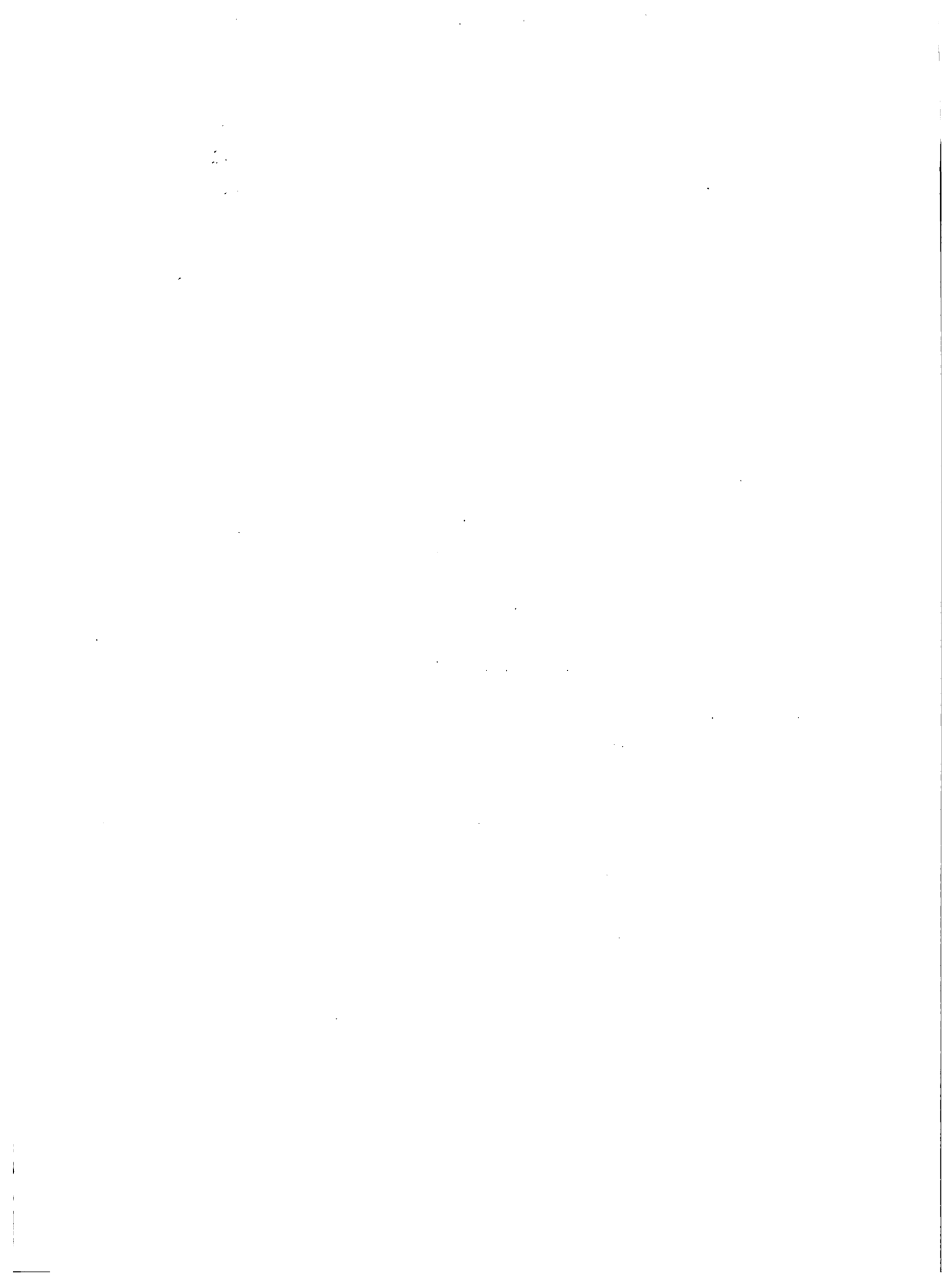
- 4.53 Publication No. V-3 THE CULTURE OF GRAFTED PIMENTO (A SPICE CROP FOR HILLY LANDS OF JAMAICA), January 1981 by D. D. Henry and J. R. Gayle. 32 pages.

Although the importance of Pimento is well-known, its potential has not been realized. There is scope for expanding its use on hillside farms on a structured basis, using the modern methods of grafting for the duplication of cultivars. This presentation deals with the various factors and implications of such an approach for small farmers on hillside lands.

- 4.54 Publication No. V-4 AGRICULTURAL RESEARCH IN JAMAICA by A. H. Wahab and N. J. Singh. February 1981, 23 pages.

The presentation of this paper appears to be very opportune at a time when the whole question of agricultural research in Jamaica is in the melting-pot. In spite of various studies, projects and programmes designed to deal specifically with the important area of adaptive research, which is so necessary for supporting production efforts, progress in general has been slow.

This paper deals with institutional aspects of agricultural research in Jamaica and identifies the priority areas and constraints to research. With a view to avoiding duplication of effort the paper also deals with the relationships between MINAG's programme and those of other national research agencies. It is hoped that the paper will prove helpful to those responsible for formulating agricultural research policy in Jamaica, and to agricultural researchers who should be interested in the problems of organizing and administering the national research efforts.



- 4.55 Publication No. V-5 COUNTRY LEVEL ACTION PLAN (PANP Spanish; or CLAP English). Internal Document prepared by P. Aitken-Soux, I. E. Johnson and A. H. Wahab. May 1981. 37 pages.

The Plan (PANP/CLAP) is intended to systematize and place in ordinal perspective the agricultural situation in the country, as a basis for determining programmes and projects for IICA's involvement in each country.

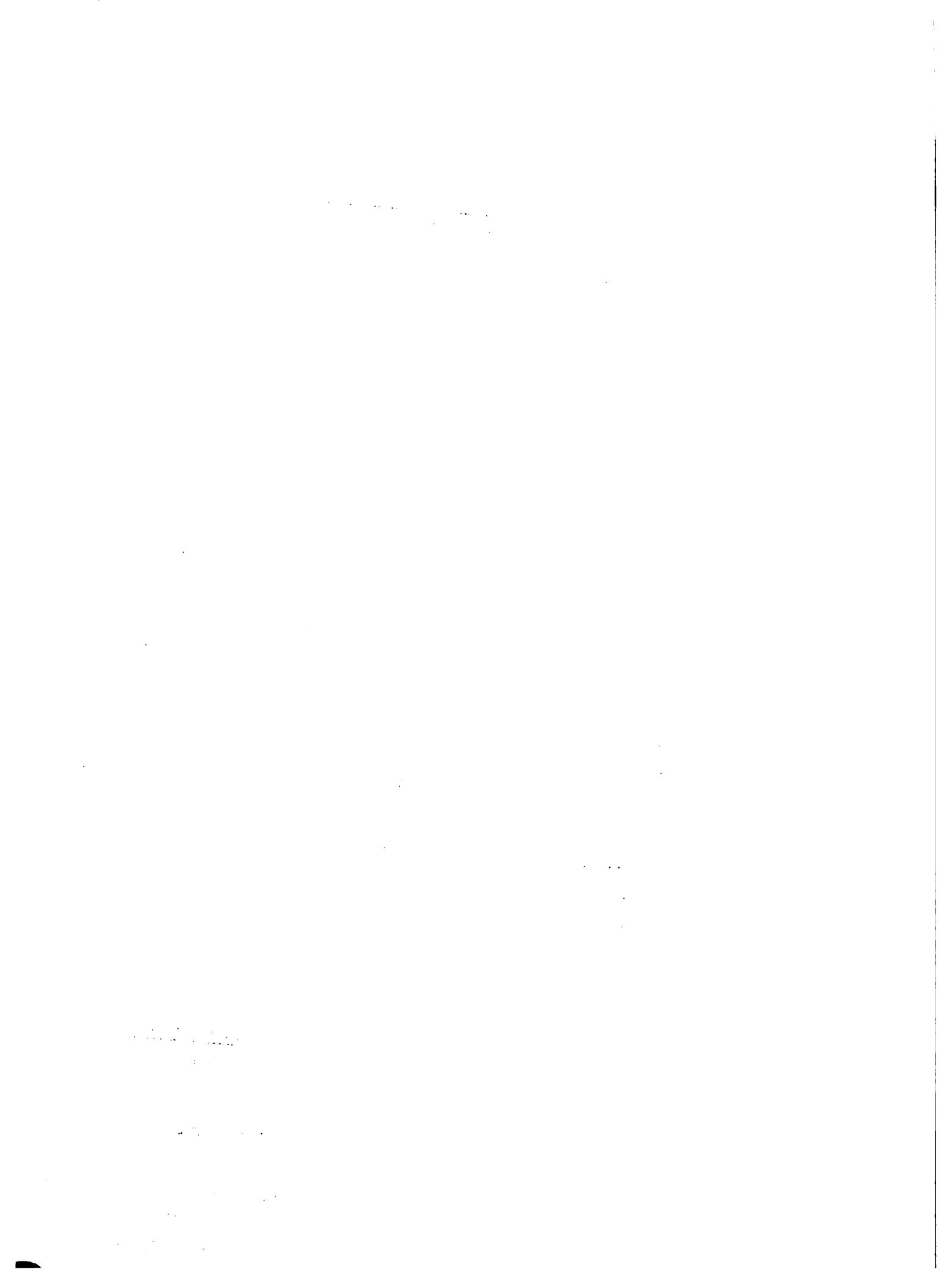
The PANP presents a diagnostic assessment of the agricultural sector, examines the normative targets set by the country, and then matches these with the philosophy, objectives, strategies and lines of action (now termed programmes) of IICA. This helps in determining an ordinal set of priorities.

The edition is the first revision of the PANP (=CLAP) originally prepared in 1977. It is designed to include priorities determined by the new government of October 1980. It is important to note that the principal priorities for the Agricultural Sector as now prepared show little if any significant changes from those stated in 1977 and deal specifically with projects for:

- increasing food production for domestic purposes and for import substitution
- increasing foreign exchange earnings through exports
- increasing farm income (leading to improvement in the standard of living)
- increasing employment opportunities

- 4.56 Publication No. V-6 OVERVIEW OF AGRICULTURAL DEVELOPMENT IN JAMAICA May 1981, by P. Aitken, I. E. Johnson and A. H. Wahab. 37 pages.

This publication is essentially a re-presentation of Publication No. V-5 Section 4.55 which was prepared entirely for internal IICA consumption. Its re-presentation provides a quick, handy and useful tool for looking at the existing status quo in relation to policy, resources in agriculture, problems, technology, services, financing, past performance



and the potential for development. Its prime purpose is to obtain a framework or skeleton which appears likely to provide an appropriate basis for the utilization of various inputs and strategies for attaining national agricultural improvement.

- 4.57 Publication No. V-7 POLICY AND ADMINISTRATIVE ASPECTS OF THE LAND DEVELOPMENT AND UTILIZATION ACT 1966 IN JAMAICA July 1981, by S. Thompson, I. E. Johnson, P. Aitken-Soux et al. 26 pages.

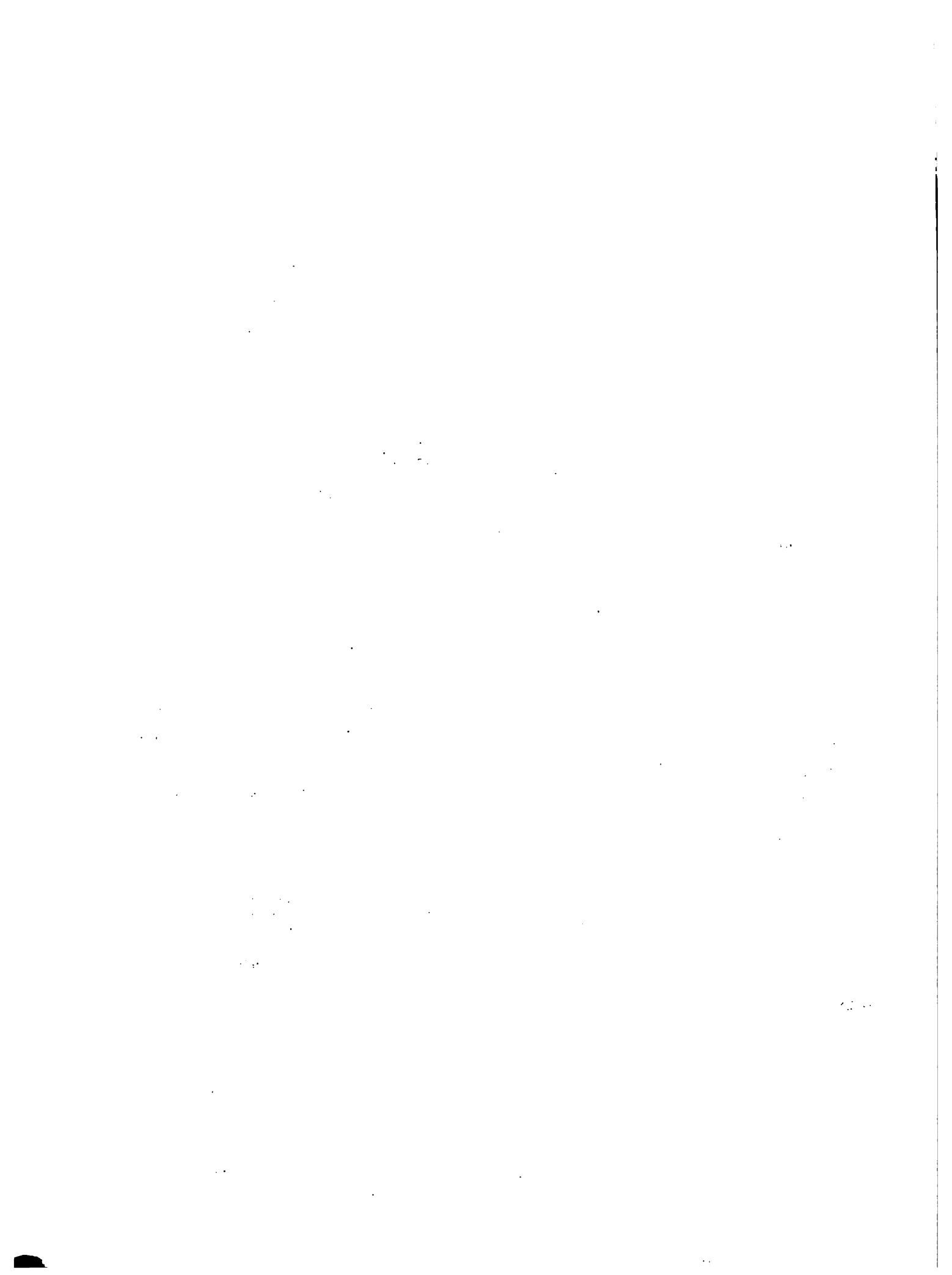
This publication takes cognizance of GOJ's awareness of Jamaica's agricultural land scarcity problem. This has been caused largely by its high man: land ratio (population density) and has forced the country to look at ways and means of using agricultural land more effectively. This problem has worsened rapidly through the effects of increasing population.

The main purpose of the Act was to provide a disincentive for large land-owners to keep arable land idle. The conditions include arrangements for assisting these land-owners to adopt proper land development practices, to make land available for use for farmers having little land or in the alternative to have government acquire the land for use by others. The size of land treated in the document was originally 100 acres for each land-owner involved but steps were being considered to reduce this size to 50 acres.

- 4.58 Publication No. V-8 THE EXPERIENCES OF JAMAICA IN THE MANAGEMENT OF AGRICULTURAL PRODUCTION ON HILLSIDES by Abdul Wahab, Percy Aitken-Soux, Irving Johnson, Bo-Myeong Woo, Howard Murray, Joseph Dehaney. July 1981. 67 pp.

(Specially slanted for presentation (by Dr. A. Wahab) in a training course titled "Management of Hillsides for Production" held at Huarez, Peru on June 24, 1981, sponsored jointly by the Government of Peru and IICA-OAS).

This presentation records the results of the joint MINAG/IICA project at Allsides and Olive River in the parish of Trelawny.



All multi-cropping systems were carried out on bench-terraced lands (slopes up to 17°) using yam (Dioscorea cayenensis) as the central crop. At Olive River, systems of soil conservation other than bench-terracing were tested, using cropping systems similar to those applied at Allsides. Thus the Olive River tests evaluated both soil loss and the effectiveness of selected multi-cropping systems.

The project was intended to increase production and productivity of hillside lands through the application of multi-cropping systems and/or intensive cultivation of appropriately conserved lands.

Results obtained over a four-year period indicate that

- the quantity of useful biomass can be tripled;
- farm-income and on-farm employment can be doubled;
- nutritional profiles can be markedly enhanced; and
- employment opportunities can be significantly increased.

The presentation provides background information - describes the Allsides Project in detail, including alternative approaches tested at Olive River and the results obtained.

- include several Tables and Figures;
- suggest prospectives for future development of Hillside Agriculture in Jamaica.

- 4.59 Publication No. V-9 YIELD RESPONSE OF YELLOW YAM (DIOSCOREA CAYENENSIS) AFTER DISINFESTING PLANTING MATERIAL OF PRATYLENCHUS COFFEAE by Dave G. Hutton, Abdul H. Wahab and Howard Murray. July 1981, 8 pp.

Several noxious nematodes affect yams (*Dioscorea* spp) in Jamaica but the Pratylenchus coffeae is the only one found infesting yellow yam, the main tuber grown in the Allsides area. The paper describes the comparative results of using oxamyl solution (2,000 ppm) or water at 45°C. The indications are that there is a great potential for reducing the heavy losses to yam cultivars and edible tubers.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It includes a detailed description of the experimental procedures and the tools used for data collection.

3. The third part of the document presents the results of the study, including a comparison of the different methods and techniques used. It discusses the strengths and weaknesses of each method and provides a summary of the findings.

4. The fourth part of the document discusses the implications of the study and provides recommendations for future research. It highlights the need for further investigation into the effectiveness of the different methods and techniques used.

5. The fifth part of the document provides a conclusion and a summary of the key findings. It emphasizes the importance of maintaining accurate records and the need for transparency and accountability in financial reporting.

6. The sixth part of the document provides a list of references and a bibliography. It includes a list of the books, articles, and other sources used in the study.

7. The seventh part of the document provides a list of appendices and a bibliography. It includes a list of the tables, figures, and other supplementary materials used in the study.

8. The eighth part of the document provides a list of appendices and a bibliography. It includes a list of the tables, figures, and other supplementary materials used in the study.

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17. The seventeenth part of the document provides a list of appendices and a bibliography. It includes a list of the tables, figures, and other supplementary materials used in the study.

18. The eighteenth part of the document provides a list of appendices and a bibliography. It includes a list of the tables, figures, and other supplementary materials used in the study.

- 4.60 Publication No. V-10 PERFORMANCE OF ELEVEN VARIETIES OF DRY BEANS (PHASEOLUS VULGARIS) OVER TWO SUCCESSIVE SEASONS ON THE HILLSIDES OF JAMAICA by Elaine Montague-Gordon, Abdul Wahab, Joseph Dehaney and Audrey Wright, August 1981. 19 pp.

Local production is considerably below the demand for dry beans, which form a very important element of the protein in the national diet. Red peas, also known as red beans is an important component of one of the main national dishes.

The importance of red peas, and the inadequacy of the data available for successful production on hillsides have influenced the conduct of the research. The experimental results indicate a potential for increasing production through the adoption of appropriate technology.

- 4.61 Publication No. V-11 POSITION PAPER ON ROOT CROPS IN JAMAICA by Dave G. Hutton and Abdul H. Wahab, August 1981. 20 pp.

The paper takes into consideration the large demand for root crops, low yields and production, population increase and the scarcity of suitable agricultural land. Consideration is given to improving the situation not only for domestic use but also for export marketing.

- 4.62 Publication No. V-12 TECHNICAL ASSISTANCE FOR THE ENGLISH-SPEAKING CARIBBEAN (Internal Document - not for distribution) by Percy Aitken-Soux, Abdul H. Wahab and Irving E. Johnson. September 1981. 25pp.

The object of the authors who have spent a considerable period working in the English-speaking Caribbean countries is to document suggestions, based on their experiences, for consideration in formulating functional policies for technical assistance in these countries.



- 4.63 Publication No. V-13 CROP PRODUCTION ON HILLSIDES USING NON-BENCH TERRACING ALTERNATIVE MEASURES FOR SOIL CONSERVATION by Bo-Myeong Woo, Abdul H. Wahab, Joseph Dehaney, September 1981. 27 pp. plus Annexes 19 pp.

High density of farmers on steep hillsides has considerably increased soil erosion, largely due to the crops grown and the patterns of land use adopted. Under certain circumstances bench-terracing has proven to be successful in reducing erosion rates significantly while, at the same time, leading to increased production and productivity. The high cost of bench-terracing, and the high subsidy (75%) paid by government led IICA to suggest studies of alternative soil conservation measures using similar cropping systems as those used at Allsides. The variables studied were production, soil loss and soil conservation costs. Preliminary results reported in this presentation are most encouraging and indicate that soil conservation methods other than bench-terracing have a potential for substituting bench-terracing under certain conditions.

- 4.64 Publication No. V-14 AGRICULTURAL PRODUCTION ON HILLSIDES - THE ALLSIDES PROJECT CASE STUDY by A. Wahab, P. Aitken-Soux, I.E. Johnson, Bo-Myeong Woo, Howard Murray and Hoseph Dehaney, September 1981, 33 pp. 19 Tables and 18 Figures.

This paper is based on empirical data obtained from work done at Allsides and Olive River. This case study was specifically requested for presentation at the Inter-American Congress of Food and Agricultural Production in Sao Paulo, Brasil, and was given by Dr. Irving Johnson.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for a systematic approach to data collection and the importance of using reliable and valid measurement instruments.

3. The third part of the document discusses the ethical considerations that must be taken into account when conducting research. It stresses the importance of obtaining informed consent from participants and ensuring that their privacy and confidentiality are protected throughout the study.

4. The fourth part of the document provides a detailed overview of the research process, from the initial formulation of research questions to the final analysis and reporting of results. It includes a discussion of the various stages of the research process and the challenges that may be encountered at each stage.

5. The fifth part of the document discusses the importance of disseminating research findings and the various ways in which this can be achieved. It emphasizes the need for researchers to communicate their findings clearly and effectively to a wide range of stakeholders.

The paper elaborates the following main elements:

- the high population of rural small hillside households;
- some 80% of farmers operate steep erodible hillsides and produce over 90% of the food grown for local consumption;
- these farmers occupy the least fertile agricultural lands, this being associated with the highly skewed distribution of agricultural land by size groups of farms.

Results indicate the potential for intensive agriculture under rain-fed conditions producing increased yields, increasing farm incomes, improving the nutritional profile of farmers and increasing the employment potential for rural people. They also indicate that these benefits are attainable under appropriately soil-conserved hillside farming situations which include improved cropping systems.

This presentation has been largely responsible for IFAD expressing the desire to assist in formulating and providing financial support for implementing a second project for small farmers in Jamaica.

- 4.65 Publication No. V-15 INVESTIGATING CRITICAL LEVELS OF DRY ROTTING OF YELLOW YAM (DIOSCOREA CAYENENSIS) PLANTING MATERIAL, THE BENEFITS OF DISINFESTING THE HEADS OF PRATYLENCHUS COFFEA, AND AFTER-PLANTING NEMATOCIDE TREATMENT by D. Hutton, A.H. Wahab and J. Dehaney. September 1981. 10 pp.

Of the several nematodes which affect yams Pratylenchus coffea is the only one affecting yellow yams. It causes "burning" and other conditions affecting both the yam cultivar and the edible material. The net



effect is a significant loss to farmers.

This presentation reports on the results of tests carried out at Olive River, using chemical treatments for cultivars having different degrees of nematode infestation. In some cases a post-planting treatment is applied in addition to the pre-planting treatment. Twelve (12) treatments were replicated thrice, using a randomised complete block design. Post harvest infestation is compared with that prior to planting, and the difference in damage is significant in every instance. It is apparent that the economic benefits would also be significant if the chemical treatments tested were used in the production practices.

- 4.66 Publication No. V-15 CRITICAL LEVELS OF DRY ROTTING OF YELLOW YAM (DIOSCOREA CAYENENSIS), PLANTING MATERIAL AND YIELD RESPONSES AFTER DISINFESTING HEADS OF PRATLENCHUS COFFEAE AND AFTER POST-PLANT NEMATOCIDE APPLICATIONS by D. Hutton, A. Wahab and J. Dehaney. September 1981. 10 pp.

This trial was sited at Allsides on recently-terraced land which had been cropped for two successive years with yams. Twelve (12) treatments were replicated thrice in a randomised block design. The experimental work is similar to that undertaken at Olive River and the results obtained from the tests are also similar. There is no evidence that post-plant nematocide treatments influenced gross tuber production but oxamyl treatment results in significant reductions in the dry-rot ('burning') observed on harvested tubers.

- 4.67 Publication No. V-17 SEMINAR ON MEDITERRANEAN FRUIT FLY by Ministry of Agriculture and IICA/Jamaica. September 1981. 29 pp.



As a consequence of a Mediterranean Fruit Fly infestation in Florida, U.S.A., and given the heavy traffic between Jamaica and Miami, Mr. Walter Van Whervin, Deputy Director of Research for Plant Protection, MINAG, Jamaica requested the IICA/Jamaica office to assist in setting up a programme to determine whether the Mediterranean Fruit Fly, Ceratitidis capitata is in Jamaica.

IICA/Jamaica immediately consulted with Dr. Federico Dao, Director of the Plant Health Programme for IICA and Dr. Chelston Braithwaite, IICA Regional expert on Plant Protection. Arrangements made through the USDA and the Mexican Government led to the assignment of two (2) experts, namely Dr. Ed Ayers (USA) and Dr. Jesus Reyes, (Mexico) who working with Dr. Florence Young of Jamaica, set traps, identified specimens, trained local personnel, programmed and gave a Seminar, the proceedings of which are presented in this publication.

An exercise in a non-programmed activity indicates how specialists of the region can co-operate in dealing with a critical problem. Fortunately the results show no incidence of the fruit fly. Local technicians obtained training in methods to be pursued in detecting the pest.

- 4.68 Publication No. V-18 EROSION CONTROL WORKS IN KOREA
by Dr. Bo Myeong Woo, October 1981, 35 pp.

The IICA/Jamaica Director on presenting his credentials to Dr. Woonsang Choi, Korean Ambassador in Jamaica was advised by the latter that the "Koreans were the masters of hillside farming" and that his government would be happy to co-operate with GOJ and IICA in work on hillside farming. This eventually led to a tripartite agreement between GOJ, IICA and Korea. Dr. Woo, a Korean technician was assigned to work through IICA/Jamaica on a project at Olive River to test soil conservation measures other than bench-terracing. Dr. Woo is Professor of Forestry

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and Soil Conservation at Seoul National University. This publication is the basis of a seminar given by Dr. Woo at the IICA Headquarters, San Jose, Costa Rica.

- 4.69 Publication V-19 COUNTRY LEVEL ACTION PLAN (REVISED) by I.E. Johnson and P. Aitken-Soux. October 1981. This is a revision and updating of the PANP, including suggestions made by senior personnel from the IICA Headquarters at San Jose, Costa Rica.

Due to a change in the government of Jamaica in October, 1980, some issues have remained tentative awaiting precise GOJ action within its policy framework. For this reason extensive quotations have been taken from the new government's manifesto - 'Change Without Chaos'. The summarized points extracted from this document, as stated by the government, have in fact become government policy. A comparative analysis of the stated policy of the new government as stated in the Revised Country Level Action Plan (CLAP) and that reflected in the PANP indicates areas of change stated by GOJ in its policies for agriculture. The situation in terms of application continues to change.

- 4.70 Publication No. V-20 PROGRAMME OF WORK TO ESTABLISH GUIDELINES FOR THE EFFECTIVE ADMINISTRATION, OPERATION AND MAINTENANCE OF THE IRRIGATION AND DRAINAGE DISTRICT IN THE BRUMDEC PROJECT by Humberto Pizarro, November 1981. 8pp.

An agreement was made between the Black River Upper Morass Development Company (BRUMDEC) and IICA for the latter to provide technical inputs for the formulation of projects to be carried out on lands under the jurisdiction of BRUMDEC. By agreement IICA has identified experts for 4 main areas, namely:

- Irrigation and Drainage
- Rice Research and Production
- Grain Production
- Vegetable Production

Technical Reports are prepared for BRUMDEC under the aegis of the IICA/Jamaica Office. This publication No. V-20 is the first in the series of Technical reports required in the agreement. The information presented in this first report sets the stage for the Irrigation and Drainage inputs developed and presented in subsequent publications, without which all meaningful work at BRUMDEC would be forestalled.

- 4.71 Publication No. V-21 THE OPERATION OF THE DRAINAGE SYSTEM IN THE BRUMDEC PROJECT by Humberto Pizarro, November 1981, 8 pp and Appendices 16 pp.

This document presents an analytical description of the BRUMDEC Irrigation and Drainage systems, their organization and maintenance, and states recommendations for improvements.

- 4.72 Publication No. V-22 RECOMMENDATIONS FOR LAND USE AND IRRIGATION NEEDS IN THE BRUMDEC PROJECT by Humberto Pizarro, November 1981. 20 pp.

This publication deals specifically with land use and irrigation requirements for BRUMDEC. The recommendations are based on deficits in moisture due to evapotranspiration and effective rainfall. Refinement in the analysis has been affected by absence of topographical data, which would have required resources and time beyond those provided for this consultancy.

- 4.73 Publication No. V-23 (Misc. Publ #308 Serial #ISSN-0534-5391) ORGANIZATION, OPERATIONS AND MAINTENANCE OF THE IRRIGATION SYSTEM IN THE BRUMDEC PROJECT by

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by Humberto Pizarro, November 1981. 15 pp. Appendices - 11 Tables.

This presentation indicates critical defective areas in the system and measures which should be taken to ensure more effective and efficient use of resources.

- 4.74 Publication No. V-24 (Misc. Pub. #309 Serial # ISSN-0534-5391) BASIC INFORMATION FOR PLANNING WATER MANAGEMENT IN THE BRUMDEC PROJECT by Humberto Pizarro, November 1981, 9 pp.

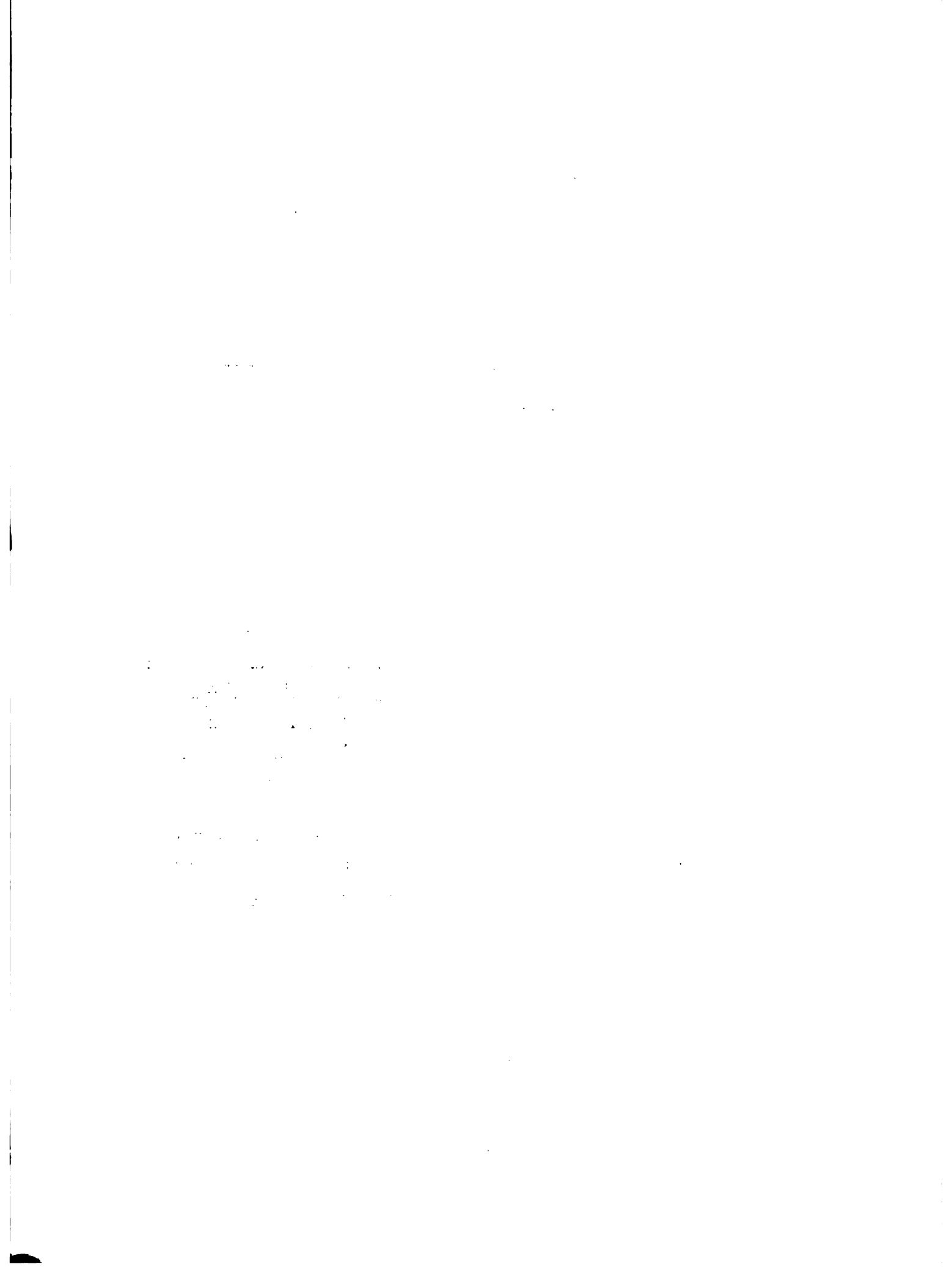
This paper discusses rainfall distribution, observation wells, siltage stations, movement of water table height, and presents conclusions and recommendations.

- 4.75 Publication No. VI-1 (Misc. Publ. #315 Serial # ISSN-0534-5391) RICE RESEARCH AND PRODUCTION IN THE BRUMDEC PROJECT STATE-OF-THE ART REVIEW, IDENTIFICATION OF CONSTRAINTS AND INTERIM RECOMMENDATIONS AND BUDGET FOR ESTABLISHING 405 HECTARES OF RICE ON CLAY SOILS AT BRUMDEC by Vivian Chin, January 1982, 24 pp.

This review identifies the current levels of technology and productivity of rice in the BRUMDEC Project area and provides a basis for making ex-post facto comparisons during the period of the consultancy.

The review deals specifically with:

- Research and Production results obtained by the Japanese Team of Rice experts (current operations);
- Rice Production Practices on BRUMDEC farm;
- Costs of rice production on BRUMDEC farm in 1980.



- Other economic data: production and income from rice; costs of purchasing paddy, drying and milling; value of rice and by-products;
- Constraints to effective rice production in the BRUMDEC project;
- Interim Management Practices;
- Budget for rice cultivation

4.76 Publication No. VI-2 (Mis. Publ. #316 Serial ISSN-0534-5391) PROGRAMME OF WORK FOR THE SHORT-TERM ADAPTIVE PRODUCTION-ORIENTED RESEARCH ON RICE AT BRUMDEC by Vivian Chin, January 1982, 18 pp.

Sets out the objectives, strategy, methodology for experimentation, production study, seed purification (including variety selections) and training. Consideration is given to designs used on different soil types, and the use of main plots, sub-plots and sub-sub-plots. Tillage and water management are given priority treatment. A basis is set for repeating promising trials during the second year.

4.77 Publication No. VI-3 (Misc. Publ. #317, Serial ISSN-0534-5391) ADAPTIVE RESEARCH FOR GRAIN PRODUCTION, BRUMDEC, A SHORT-TERM PROGRAMME, by Claude Grand-Pierre. January 1982. 17 pp.

This presentation deals specifically with grain crops other than rice. It sets out the programme objectives, methodology, and trials to be undertaken. Main crop is cow pea. The proposal is that this should be followed by trials using other legumes such as pigeon pea, red pea and peanut. Non-legumes contemplated are corn and sorghum.



Yield responses to fertilizer are programmed as well as a fertilizer regimen for each grain crop.

The experimental design is a randomized complete block design with 3 replications. Other trials of a general nature include weed and insect control and studies on varieties - cum density are included.

- 4.78 Publication No. VI-4 (Misc. Publ. #318 Serial # ISSN-0534-5391) EXPERIMENTAL PROCEDURES FOR GRAIN CROPS RESEARCH IN THE BRUMDEC PROJECT by Claude Grand-Pierre. January 1982. 13 pp.

Sets out the relevance of the production factors employed for the crops grown; objectives; treatments used; experimental design; plot sizes; cultural practices.

- 4.79 Publication No. VI-5 (Misc. Publ #319 Serial #ISSN-0534-5391) SUMMARY OF PROPOSED PROGRAMME OF WORK FOR ADAPTIVE PRODUCTION-ORIENTED RESEARCH (SHORT-TERM) IN VEGETABLE PRODUCTION IN THE BRUMDEC PROJECT by Charles Kennard, 7 pp.

Presents the objectives, strategy, methodology, programme requirements for plant materials, fertilizers, equipment, etc.

- 4.80 Publication No. VI-6 (Misc. Publ. #320 Serial #ISSN-0534-5391) VEGETABLE PRODUCTION (BRUMDEC) - REVIEW AND PROPOSED SHORT-TERM ADAPTIVE PRODUCTION-ORIENTED RESEARCH PROGRAMME by Charles Kennard, January 1982, 37 pp.

This presentation includes a detailed background describing soil-types and climate (including water



and water management). A programme for adaptive research is presented and sets out objectives, strategy, methodology, and programme requirements.

- 4.81 Publication No. VI-7 (Misc. Publ. #321 Serial #ISSN-0534-5391) OLIVE RIVER RUN-OFF PLOTS - DESCRIPTION OF THE EXPERIMENT by Bo Myeong Woo, January 1982. 37 pp.

Soil Conservation work at Allsides was based on the high cost bench-terracing method. Under a tripartite agreement between GOJ, Korea and IICA a Korean expert was provided to Jamaica to undertake studies on cropping systems involving soil conservation measures other than bench-terracing. The main variables to be studied were soil loss, productivity and soil conservation cost. The initial requirement was the construction of a run-off plot for measuring soil loss.

This presentation outlines the various steps in the construction of the run-off plot; soil conservation treatments and cropping systems; and procedures for measuring and calculating soil loss from the experimental plots.

- 4.82 Publication No. VI-8 (Misc. Publ. #325, Serial #ISSN-0534-5391) FERTILIZER EXPERIMENTS ON RICE IN BRUMDEC - (SECOND QUARTERLY REPORT) by Vivian Chin, January 1982. 11 pp.

A progress report setting out factors which individually or in combination enhance rice production, and developing response curves which can be used as guides in the planning of future experiments and in the planning of a fertilizer application regimen for rice production.



The report describes land and experimental plot preparation; initiation of planting programme for plots; levels of fertilizer application. Problems (particularly those relating to the plots made available for experimental work), and corrective action are discussed.

- 4.83 Publication No. VI-9 (Misc. Publ. #326 Serial #ISSN-0534-5391) THIRD QUARTERLY REPORT OF THE SHORT-TERM PRODUCTION-ORIENTED SORGHUM RESEARCH PROGRAMME, by Claude Grand-Pierre, January 1982. 7 pp.

Principal activities related to corn experiments, sorghum experiments; corn shelling and sorghum threshing; legume experiments. A report is made on the continuing non-improvement in the supply of facilities and basic information necessary for undertaking the work satisfactorily. Resulting delays in implementation and execution of the field work placed the legume experimental work 6 weeks behind schedule. A critical area identified is the unsatisfactory manner in which the provision of counterpart staff and storage is treated. The report includes a recommended Technical Package of practices for grain sorghum production.

- 4.84 Publication No. VI-10 (Misc. Publ. #327 Serial # ISSN-0534-5391) CROP PRODUCTION ON HILLSIDES USING NON-BENCH TERRACING ALTERNATIVE MEASURES FOR SOIL CONSERVATION by IICA/Jamaica (Bo-Myeong Woo) and MINAG, February 1982. 48 pp.

This study details the operations initiated in soil conservation systems other than bench-terracing and cropping systems, initial work on which was presented in Publication No. VI-7, Section 4.81 above. The study deals inter alia with:



- Installation and Management of Run-off experiment plots, and measurement of soil loss.
- Soil conservation treatment
- Cropping systems and management, and measurement of production

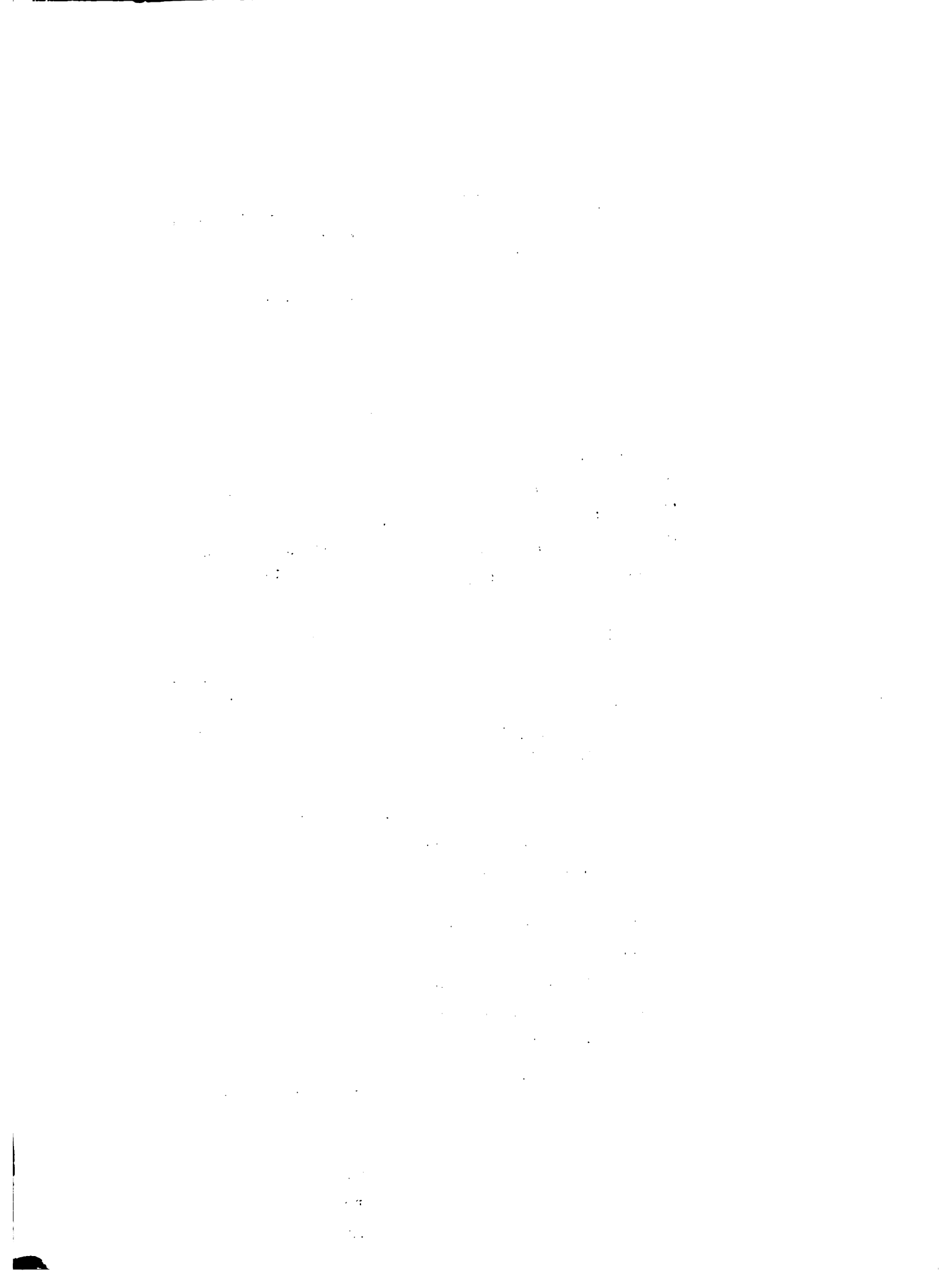
During the first two years emphasis is being placed on soil conservation and agronomic practices. The next step proposed is that of acquiring precise data and relevant information on input/output relationships for economic analytical purposes. Enough success has been generated during the period to justify further work on the soil conservation and cropping systems used. Socio-economic data should be collected using larger plots than those used on the purely experimental plot basis.

- 4.85 Publication No. VI-11 (Misc. Publ. #323 Series #ISSN-0534-5391) WORKSHOP ON AGROCLIMATIC ZONING CASE STUDY, KINGSTON, JAMAICA by IICA/Jamaica (Michel Eldin), Meteorological Department (Philemon Hoilett, Ina Pyne, Calvin Gray), MINAG (R. Baker); April 1982, 42 pp.

The Hon. Prime Minister of Jamaica expressed a desire for IICA to prepare a profile for an Agro-meteorological zoning strategy for Jamaica.

A first step was the collection of basic data and identification of human resources needed to undertake the work. Mr. Michel Eldin an expert in this area, was assigned by IICA headquarters to assist in developing the project.

A workshop was programmed to explain the methodology and to test some of the existing available data for the purpose of identifying major aspects of the exercise to be undertaken and gaps which exist in the data required. A one week workshop was organized



and directed by Mr. Eldin. The data tested were those of the Palisadoes Meteorological Station and the results of the seminar are presented in the document under review titled "Workshop on Agro-climatic Zoning".

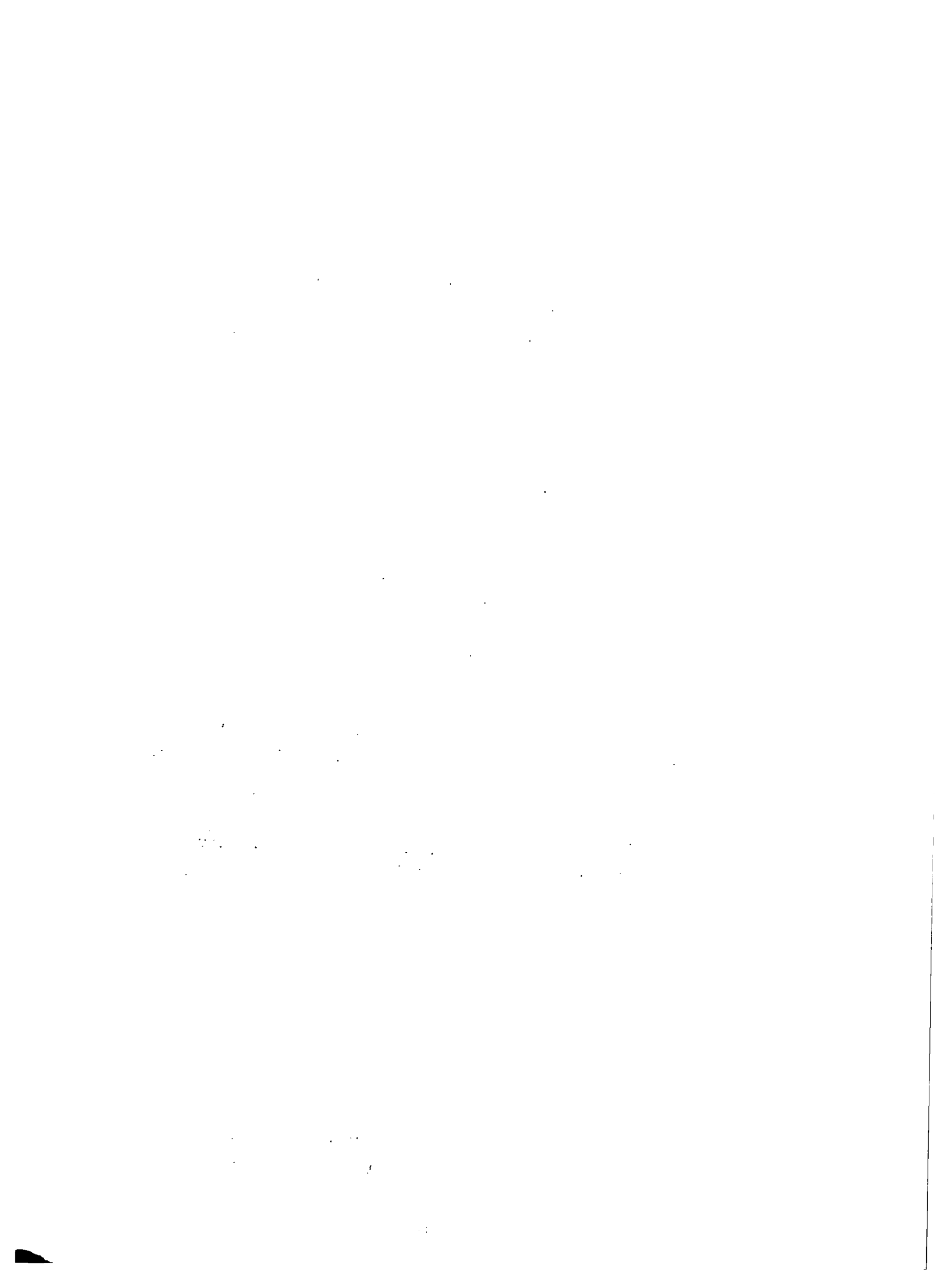
The workshop exercise has provided a basis for preparing a written proposal for the Agro-met Zoning of Jamaica, which has been submitted to the IDB as requested by the Prime Minister. The zoning proposals, if adopted, should assist in solving some important problems related to rural development.

Specific items covered by the workshop included inter alia Background and Purpose of study, Methodology, Uses, Data needs, Conclusions and Recommendations.

- 4.86 Publication No. VI-12 (Misc. Publ. #353 Series # ISSN-0534-5391) VEGETABLE PRODUCTION PROGRAMME BRUMDEC - SECOND QUARTERLY REPORT by Charles P. Kennard, April 1982. 25 pp.

A continuation and up-date of the report presented in Section 4.80 (Publication No. VI-6). The document discusses:

- The Applied Research Programme pursued;
- Specific work done on the Morass Peat Soil - agronomic work on various vegetable crops, inclusive of fertilizer trials. Planting material of some 11 crops was procured by the IICA/Jamaica office.
- Programme for the next season



- 4.87 Publication No. VI-13 (misc. Publ. #352, Series # ISSN-0534-5391) FINAL REPORT ON GRAIN EXPERIMENTAL WORK IN BRUMDEC by Claude Grand-Pierre, May 1982. 48 pp. (including preliminary reports on this assignment).

The Final Report on the subject which treated specifically with short-term Production-Oriented Grain Crops Research Programme covers:

- General situation including project set-back due to non-provision of facilities and the fact that grain corn was lost through praedial larceny, rendering it impossible to evaluate corn production.
- Results of Experimental work - grain sorghum (deficiencies of phosphorus and nitrogen; and recommendations concerning optimal fertilizer applications;

Constraints and Problems in the Project Area

- Land management problems for the plot allocated for research - necessity for draining and land shaping on the mineral soils.
- Minimum tillage recommended for the Morass Peat Soil, water table maintenance at optimum height, use of light equipment such as roto-tillers and use of over-head irrigation system.



- Requisite of an appropriate plant protection programme.
- Optimal cropping pattern.

- Future Grain Production Research Profile -
 - Crop Fertilizer application
 - Population density
 - Plant Protection

4.88 Publication No. VI-14 (Mics. Publ. #354 Series #ISSN-0534-5391) LABORATORY SAFETY SEMINAR - ANIMAL HEALTH CONFERENCES OF JONATHAN RICHMOND, June 1982. 71 pp.

In May 1981 through the aegis of IICA a regional seminar/workshop on "Laboratory Equipment Maintenance" was arranged by Dr. Franz Alexander, Director of the Animal Health Division of IICA for the Antillean Zone.

Dr. J.Y. Richmond was specially selected to present papers on Techniques for Achieving Laboratory Safety Measures. Some 70 persons participated.

The proceedings of the Seminar are presented in this publication and cover the following topics:

- The Plum Island Animal Disease Centre - Its Mission, Goals and Operations. 20 pages
- Containment of Infectious Micro-Organisms. 13 pages.
- Bio-hazard Awareness and Risk Control in Laboratory Animal Facilities. 14 pages.
- A Review of Laboratory Safety Procedures. 24 pages.



This seminar arose from the need for improved laboratory equipment maintenance as identified at the Second Hemispheric Re-union of Directors of Animal Health, REDISA II, held at IICA Headquarters, San Jose, during September 1980.

The GOJ agreed to host the Seminar which was held at the Veterinary Division, Hope, May 18-22, 1981. The Seminar was organized and co-ordinated by the Director of Animal Health for the Antillean Zone, IICA/Jamaica, and the Veterinary Division of MINAG, Jamaica. Participants included regional officers, veterinarians Laboratory technologists, MINAG personnel, Medical Technologists from the Ministry of Health. The agenda covered a wide range of instrument which emphasized mainly the principles of functions and procedural applications. Laboratory safety is a subject that has been highly recommended for continuing study by the Directors of Animal Health of this region.

- 4.89 Publication No. VI-15 (Misc. Publ. #351 Series #ISSN-0534-5391) FRESHWATER PRAWN (SHRIMP) CULTURE FOR JAMAICA - AN EXPLORATORY REPORT, by Michael Wiles, June 1982. 108 pp.

IICA/Jamaica became aware of the potential for developing a freshwater shrimp on commercial lines in Jamaica. It therefore sought and obtained the assistance of Professor Michael Wiles, Professor of Biology and Chairman of the Biology Department of St. Mary's University, Halifax, Nova Scotia, while on Sabbatical leave, to identify a project and undertake preliminary work necessary for providing some of the parameters required for undertaking an appropriate pre-feasibility study.



Prior to that IICA/Jamaica discussed the concepts with the Permanent Secretary, MINAG, the Head of the Zoology Department of the University of the West Indies (Mona campus) and private sector interests.

The Permanent Secretary MINAG made available very suitable facilities on a government-owned property at Pear Tree Bottom River in the parish of St. Ann for the conduct of the study.

A number of preliminary investigations have been undertaken, the results of which provide useful inputs for the pre-feasibility study. The proposals include a research programme, and special studies on the cannibalistic nature of four (4) main freshwater shrimp species namely Macrobrachium acanthurus, M. carcinus, M. faustinum and M. rosenbergii.

The proposal is that the work be carried out by selected university graduate students under the direction of a Resident Research Director, and on GOJ owned land. It is further proposed that the study be a joint GOJ/IDRC/IICA exercise extending over a period of 3 years.

- 4.90 Publication No. VI-16 (Misc. Publ. #357 Series # ISSN-0534-5391) GOAT REVOLVING SCHEME - PROJECT MODEL - RURAL WOMEN PROJECT by Norma Munguia and Byron Lawrence, July 1982. 31 pp.

The main objectives listed by GOJ for the improvement and development of its rural sector include - increasing food production for local consumption, export and import substitution; increasing employment activities and rural incomes, and developing



agro-based industries. In addition, there is the question of the high level of un-employment among women which exists in many rural households.

A goat revolving project has been formulated jointly by MINAG and IICA/Jamaica to assist in meeting GOJ's development objectives, especially for the additional reason that IICA and other international funding agencies e.g. IFAD are placing a high priority on improving the income-earning potential and ultimately the quality of life of rural women.

MINAG has indicated its support for such a project by formulating a dairy-goat project along lines similar to those described in this publication. Additionally a GOJ/IICA project of this nature can serve as an integrative mechanism which facilitates the creation of small primary groups which have a potential for developing technological change in the rural sector.

The document sets out, inter alia;

Objectives: targets; description of the proposed revolving scheme inclusive of selection of participants, financing; training; goat husbandry; marketing including processing of products; evaluation and follow-up; and a budget proposal.

- 4.91 Publication No. VI-17 (Misc. Publ. #356 Series #ISSN-0534-5391) EXPERIMENTAL DESIGNS FOR CASSAVA AND PEANUT PRODUCTION SYSTEMS by Franklin E. Rosales, Ministry of Agriculture et al. June 1982. 31 pages.

Low production and productivity are factors which affect farmers' incomes and result in greater

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for ensuring transparency and accountability in financial operations. This section also highlights the role of internal controls in preventing fraud and errors.

2. The second part of the document focuses on the implementation of robust risk management strategies. It outlines various risk assessment techniques and provides guidance on how to identify, measure, and mitigate potential risks. The text stresses the need for a proactive approach to risk management to protect the organization's assets and reputation.

3. The third part of the document addresses the importance of effective communication and reporting. It discusses the need for clear and concise communication channels and the role of regular reporting in keeping stakeholders informed. This section also touches upon the importance of data security and the need for strong cybersecurity measures to protect sensitive information.

4. The fourth part of the document discusses the importance of continuous improvement and monitoring. It emphasizes that organizations should regularly review their processes and procedures to identify areas for improvement. This section also highlights the role of key performance indicators (KPIs) in measuring organizational success and the need for a culture of continuous learning and development.

5. The fifth and final part of the document provides a summary of the key points discussed and offers concluding remarks. It reiterates the importance of the discussed topics and encourages organizations to take proactive steps to implement the recommended practices. The text concludes by expressing confidence in the organization's ability to achieve its goals through the implementation of these strategies.

dependence on food imports. These levels are considerably lower than the potential. Increasing food production for local consumption, export and import substitution is high on GOJ's priority for its agricultural sector.

Major factors which result in sub-potential achievement include inappropriate land utilization practices, low technology levels, inadequate credit, sub-standard training, and inappropriate social organization and marketing.

GOJ has been pursuing a policy of securing land to enable small farmers to produce several crops including cassava and peanuts. Although these crops have been produced traditionally by a large number of farmers in certain areas output remains short of the potential. A cassava factory built by GOJ at Goshen for processing small farmers' cassava has been unable to obtain adequate quantities of raw materials. On the other hand, farmers have become disillusioned by government action in terms of the operation of the factory.

For peanuts, existing demand is not met by local production, thus this rules out consideration of the potential demand which would develop if non-traditional uses such as oil for human use and animal feeds are included.

Against such a background an agreement was signed between IICA and GOJ (MINAG) for the execution of a project which would obtain financing assistance from IICA's Simon Bolivar Fund - the project titled "Cassava and Peanut Production and Implementation Study in Jamaica", was programmed to be initiated on January 1, 1982. IICA's main raison d'etre is to cooperate with the St. Elizabeth Land Authority in developing appropriate technology for

the production of cassava and other associated crops e.g. peanuts (note the Parish of St. Elizabeth is the largest producer of both cassava and peanuts in the country).

The publication states the project objectives and strategies to be pursued, and looks at on-going research. This forms the basis for the experimental designs which are being adopted. These are listed as follows:

Thetford Seed Farm (St. Catherine)

Cassava/Corn multiple cropping
Peanuts, Gypsum levels, varieties, nitrogen levels.

Goshen, St. Elizabeth

Cassava (spacing)/Peanuts Multiple Cropping
Cassava - Multiple Cropping (no pruning)
Cassava - Peanuts - Pigeon Peas, Multiple
Cropping (pruning)
Complementary Studies to Multiple Cropping Systems

Elim, BRUMDEC - St. Elizabeth

Cassava, (spacing)/Peanuts Multiple Cropping
Peanuts, Varieties & Plant Densities
Peanuts, Gypsum levels and varieties

For each experiment the following factors are taken into consideration.

Objectives

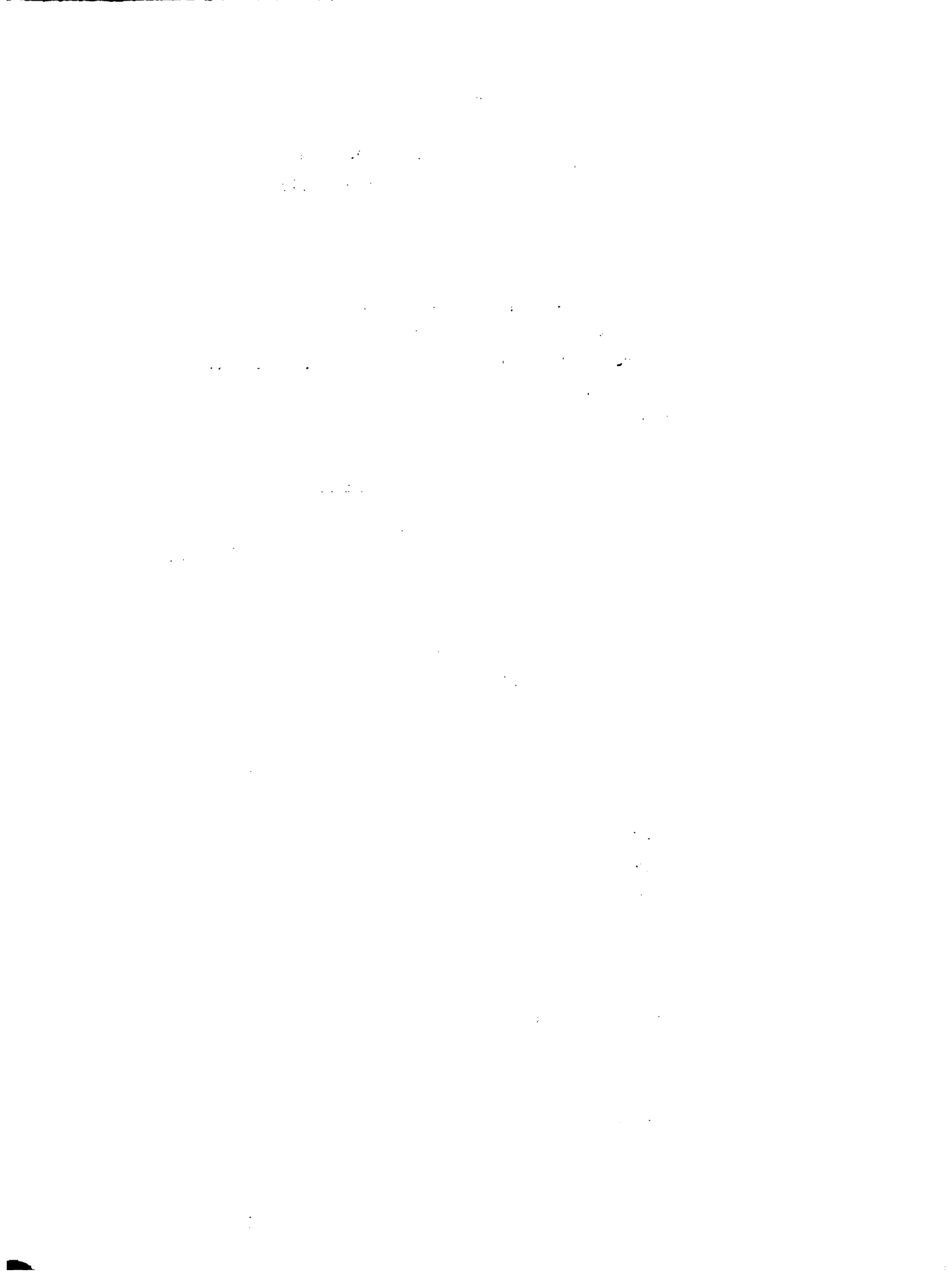
Variables

Experimental Design

Planting Materials

Spacing area and plot size

Levels of fertilizer and other input application



- 4.92 Publication No. VI-18 (Misc. Publ. #359 Series #ISSN-0534-5391) INSTITUTIONS IN THE AGRICULTURAL SECTOR OF JAMAICA (A CATALOGUE) PRELIMINARY VERSION by S.B. Bandara, July 1982. 126 pp.

When IICA/Jamaica in collaboration with MINAG was developing plans for establishing a national information system for Jamaica it became apparent that the information on names and listings of agricultural institutions was totally inadequate. It was therefore proposed as a first step to compile two directories of:

- Organizations in the Public and Private Sector engaged in Agriculture, Agro-industry and other relevant and related areas; and
- of persons with specialized and technical skills engaged in these fields, respectively.

Responses obtained by questionnaires have fallen considerably short of the actual number, so it is hoped to improve on this preliminary exercise.

The publication lists 453 organizations and/or persons.

- 4.93 Publication No. VI-19 (Misc. Publ. #322, Series #ISSN-0534-5391) VEGETABLE PRODUCTION PROGRAMME - BRUMDEC, THIRD QUARTERLY REPORT, PERIOD MARCH 19 - JUNE 18, 1982 by Charles P. Kennard. 70 pp.

This is a continuation of the BRUMDEC series of adaptive research papers. It presents the up-dated position for this consultancy and specifically deals with:



- First season's work - cabbage, lettuce, cauliflower, tomato, pepper, egg plant, cucumber, beans, watermelon and carrots.
- Second Season's programme of work, specifically micro-nutrient and fertilizer studies, varietal trials for onion, string beans and carrot; commercial and semi-commercial trials for tomato, cabbage, sweet corn, cucumber, watermelon and okra.
- Considerations were given to putting together Technical packages of practices based on information, data and experiences to date.

Recommendations are made for operations necessary for completing the objectives of the consultancy.

4.94 Publication No. VI-20 (Miscellaneous Publication #363, Series ISSN-0534-5391) MUSHROOM PUBLICATION - AN ANNOTATED BIBLIOGRAPHY OF LITERATURE AVAILABLE IN JAMAICA, by Mrs. Swarna Bandara, MINAG Library & Samuel Bandara UWI Library - 14pp. September 1982.

Much work of an unco-ordinated and indefinite nature has been done on mushroom production in Jamaica. The known potential of developing an industry having very high returns to corresponding low inputs formed the basis for identifying literature on this subject. The materials presented in this documentation brings together useful reference information which can be used by those who would wish to pursue work in structured production of mushrooms on commercial lines.

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- 4.95 Publication No. VI-21 (Miscellaneous Publication #362, Series #ISSN-0534-5391) Final Report: ADAPTIVE PRODUCTION-ORIENTED RESEARCH PROGRAMME ON VEGETABLES - BRUMDEC by Charles P. Kennard, 30pp. September 1982.

This report finalizes work for the consultation on adaptive production-oriented research work on vegetables grown under the specific conditions obtaining on the land which falls under the jurisdiction of BRUMDEC.

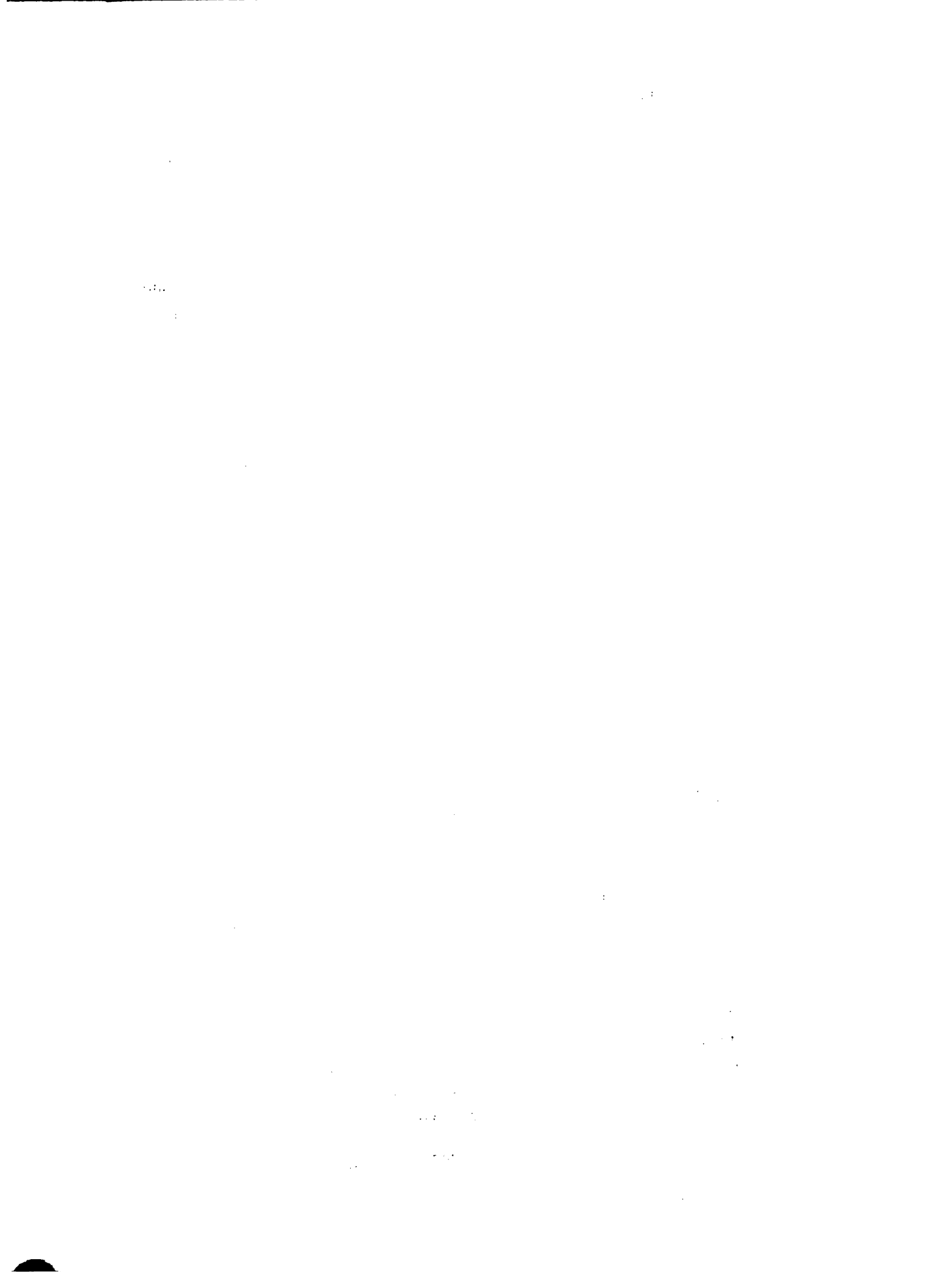
The report re-emphasizes the great potential which exists for vegetable production, particularly on the peat soils of BRUMDEC, and the high yields which can be expected, using improved varieties and appropriate husbandry practices.

Information is provided which can be used as a basis for preparing a technical package of practices for vegetable crop production on these soils. The report acknowledges the fact that the period of research has been short but provides indications that vegetable production can be very successful. A period of one year is far too short for procuring the important technical inputs required.

- 4.96 Publication No. VI-22 (Miscellaneous Publication #366 Series #ISSN-0534-5391) MAKING COMPOST - A GUIDE FOR AGRICULTURAL PERSONNEL by Bo-Myeong Woo and Franklin E. Rosales, September 1982. 28pp.

The main author Dr. Woo, a technician from the Republic of Korea, provided technical assistance through IICA/Jamaica in a tripartite agreement, in the area of soil conservation. This work was done at Olive River in the Parish of Trelawny as a complementary exercise to the work being done at Allsides. Its main objective was to study soil conservation measures other than the very expensive bench-terracing method used at Allsides and to determine economic response from selected cropping systems.

This sub-project led to consideration being given to the utilization of virtually valueless biomass arising from land clearing for making compost. The paper presents



some of the main principles applied in the making of compost.

- 4.97 Publication No. VI-23, (Miscellaneous Publication #364 Series ISSN-0534-5391) SHORT-TERM PRODUCTION-ORIENTED RICE RESEARCH PROGRAMME, THIRD QUARTERLY REPORT by Vivian Chin, September 1982, 14pp.

This report up-dates the information presented in Publication No. VI-8 (See Section 4.82). It presents a progress report on the rice experiments, the objectives of which are to quickly identify fertilizer factors which individually or in combination enhance the growth and grain production of rice, and to develop response curves to be used as guides in planning future experiments with rice grown in the project area.

- 4.98 Publication No. VI-24 (Miscellaneous Publication #355, Series ISSN-0534-5391) FINAL REPORT OF THE SHORT-TERM PRODUCTION-ORIENTED RESEARCH PROGRAMME IN RICE AT THE BRUMDEC PROJECT IN JAMAICA, 21pp. by Vivian Chin, November 1982.

This publication concludes the first phase of the Rice studies being conducted at BRUMDEC. It updates the preliminary information presented in the first 3 reports on adaptive production-oriented research for rice and indicates possible variations which may lead to better results than the methods now being used.

The report implicitly identifies gaps in available rice technology and sets out recommendations for future applied rice research on mineral soil and on morass peat. Recommendations are made concerning the improvement of rice quality, and the training of staff in the area of rice technology. Specific recommendations are made in relation to fertilizer applications, micro-nutrients, plant protection and rice varieties.

- 4.99 Publication No. VI-25 (Miscellaneous Publication #365 Series #ISSN-0534-5391) SUPPLEMENTARY REPORT ON THE APPLIED RESEARCH WORK CARRIED OUT WITH RED BEANS AT BRUMDEC, 11pp. by Vivian Chin and Claude Grand-Pierre.

This report concludes a few aspects on the production of red beans under BRUMDEC soil conditions, which were incomplete at the time when the period of the consultancy expired. The conclusions and recommendations, particularly in relation to fertilizer application and variety trials, are rather specific and should be read in conjunction with the earlier reports on red bean production.

- 4.100 Publication No. VI-26 (Miscellaneous Publication #367, Series #ISSN-0534-5391) REVIEW OF TECHNICAL DOCUMENTS PRESENTED IN THE IICA/JAMAICA SERIES "AGRICULTURE IN JAMAICA". 70 pp. by Irving Johnson and Percy Aitken-Soux. November 1982.

This review deliberately presents only brief notes on the documents reported. It is not intended to be a precis of those documents but, rather, essentially is designed to "whet the appetites" of readers.

In the earlier sections the over-all purpose of this presentation was indicated, namely that of recording work done, not only by IICA technicians but by other technicians in Jamaica, on subjects which have relevance to Jamaican agriculture. It is hoped to continue this series and the wish is that authors themselves will see the necessity for involvement and for achieving and maintaining a high standard of presentation. Thus while the earlier focus has been on production, subsequent emphasis will be placed on both production and quality of documentation.

1. Introduction
2. Background
3. Methodology

4. Results
5. Discussion
6. Conclusion

7. References
8. Appendix

9. Tables
10. Figures

11. Abstract
12. Summary

13. Keywords
14. Indexing

15. Notes
16. Footnotes

17. References
18. Appendix

19. Tables
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MEMORANDUM FOR THE DIRECTOR, FBI

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include direct observation, interviews, and the use of statistical models to identify trends and patterns in the data.

3. The third part of the document describes the results of the data analysis. It shows that there is a strong correlation between the variables being studied, and that the data supports the hypotheses that were tested.

4. The fourth part of the document discusses the implications of the findings. It suggests that the results of the study could be used to inform policy decisions and to guide future research in this area.

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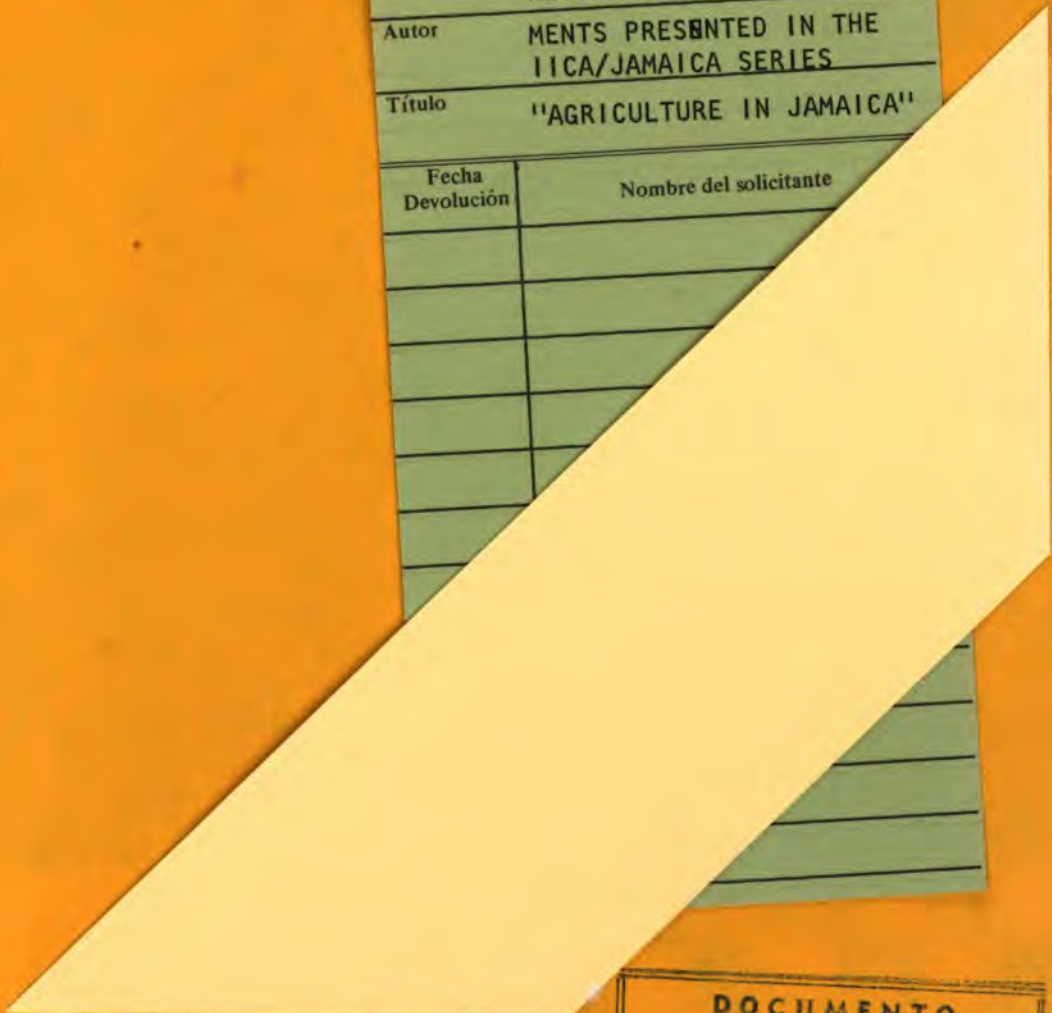
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