

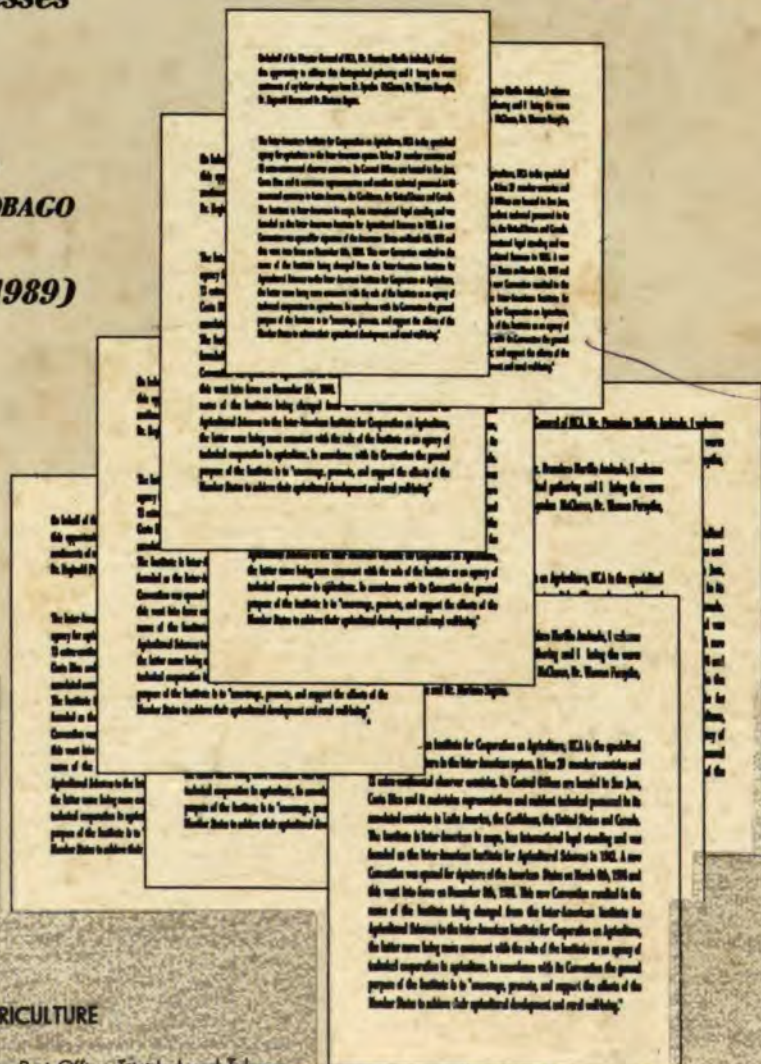
REFLECTIONS

A Collection of Selected Addresses

Presented by

Chelston W. D. Brathwaite
IICA REPRESENTATIVE IN TRINIDAD AND TOBAGO

(From November, 1982 to March, 1989)



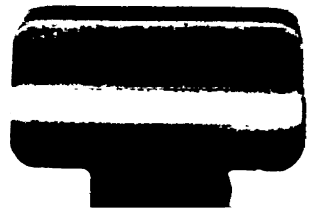
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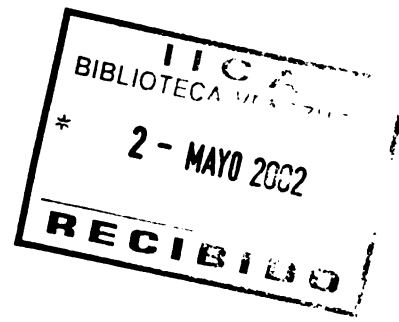
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Preface

During my tenure of office as IICA Representative in Trinidad and Tobago from November 1982, I was called upon to address several seminars, courses, symposia and meetings on subjects related to agriculture and agricultural development issues.

Reflections is a collection of some of these addresses.

I thought it useful to put these addresses on record so that they may assist future representatives, members of our Institute, and maybe scholars interpret some of the happenings in the agricultural sector of Trinidad and Tobago during the decade of the 1980s.

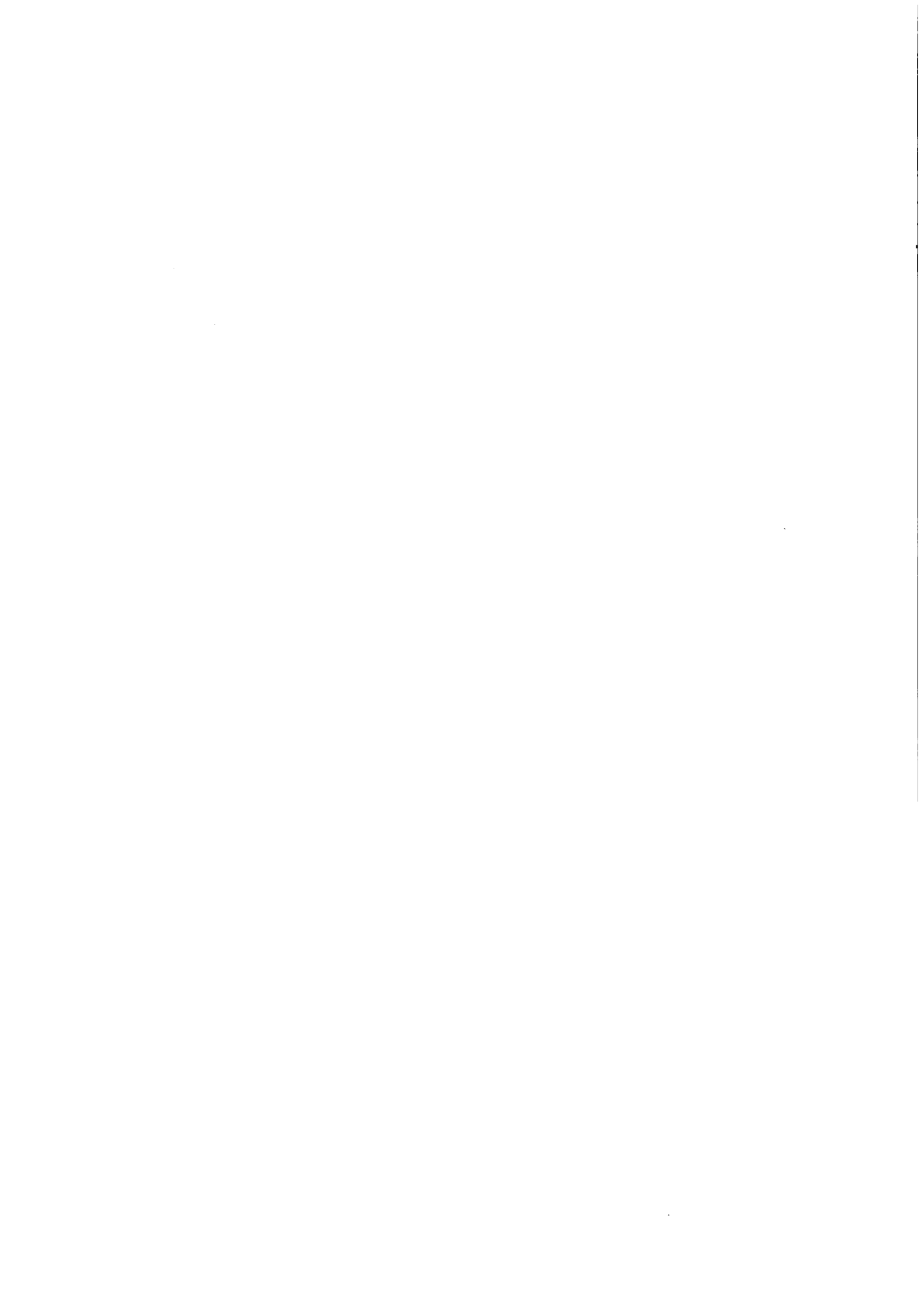
The reader will find certain themes recurring in the addresses which reflect either the philosophy of the author or the policies of our Institute.

I would like to thank the staff of the IICA Office in Trinidad and Tobago who cooperated with me during my tenure of office, and the many persons in Trinidad and Tobago who made my tenure of office as Representative of IICA an interesting and rewarding experience.

I hope that those who read this document will find the information useful.


Chelston W.D. Brathwaite

1988-11-18



Workshop on Agricultural Research Policy and Management

Held at the Holiday Inn, Port of Spain,

• *September 26th - 30th, 1983*

On behalf of the Director General of IICA, Mr. Francisco Morillo Andrade, I welcome this opportunity to address this distinguished gathering and I bring the warm sentiments of my fellow colleagues here Dr. Lynden McClaren, Dr. Warren Forsythe, Dr. Reginald Pierre and Dr. Mariano Segura.

The Inter-American Institute for Cooperation on Agriculture, IICA is the specialised agency for agriculture in the Inter-American system. It has 29 member countries and 12 extra-continental observer countries. Its Central Offices are located in San Jose, Costa Rica and it maintains representatives and resident technical personnel in its associated countries in Latin America, the Caribbean, the United States and Canada. The Institute is Inter-American in scope, has international legal standing and was founded as the Inter-American Institute for Agricultural Sciences in 1942. A new Convention was opened for signature of the American States on March 6th, 1976 and this went into force on December 8th, 1980. This new Convention resulted in the name of the Institute being changed from the Inter-American Institute for Agricultural Sciences to the Inter-American Institute for Cooperation on Agriculture, the latter name being more consonant with the role of the Institute as an agency of technical cooperation in agriculture.

In accordance with its Convention the general purpose of the Institute is to "encourage, promote, and support the efforts of the Member States to achieve their agricultural development and rural well-being."

In pursuing its two goals, agricultural development and rural well-being, IICA will cooperate with the Member States to:

- a. Bring about the growing, effective participation of rural dwellers, especially the low-income strata, in decision-making on projects affecting them, seeking to incorporate them fully into the benefits of economic and social progress.*
- b. Develop human resources by promoting formal and non-formal training, to improve production efficiency and promote the participation of the rural well-being.*
- c. Develop and consolidate national systems for the generation and transfer of technology, in order to help each country fit itself into the regional and world technological framework. This is done to improve both agricultural and forest production and productivity, to prevent and reduce losses by pests and diseases in crops and herds, and to maximise the use and conservation of soil, water, forest and wild life resources.*
- d. Develop policies, mechanisms and tools for stimulating the efficient production and marketing of inputs and of agricultural, livestock and forest products, domestically and internationally.*
- e. Reinforce regional and integrated rural development institutions for planning and implementing integrated projects, so as to coordinate institutional action and provide for the effective participation of beneficiaries.*
- f. Reinforce public and private institutional systems in the many facets of setting national goals, planning, and implementation at all levels, on the basis of the*

retrieval and analysis of information for better defining and implementing policies and programs of agricultural development and rural well-being, and for establishing IICA's own priorities for action.

IICA's Strategy

The Institute's strategy will be to reach agreement for multinational cooperation, so that concentrated actions can then be performed with the countries. Implementation will be decentralized, and impact must be meaningful. In terms of the functions established by the Convention, this means that: a) IICA will support its member countries in developing the permanent, self-sustained capabilities of national agencies responsible for agricultural development and rural well-being; b) IICA will serve the member countries as a multinational tool in those areas which require their joint action; and c) IICA will operate as a forum and tool for the exchange of ideas, experience and cooperation among countries and agencies.

IICA's Programs

At the highest level, IICA's actions are organised into ten hemisphere-wide programs: Formal Agricultural Education, Support of National Institutions for the Generation and Transfer of Agricultural Technology, the Conservation and Management of Renewable Natural Resources, Animal Health, Plant Protection, Stimulus for Agricultural and Forest Production, Agricultural Marketing and Agro-industry, Integrated Rural Development, Planning and Management for Agricultural Development and Rural Well-Being and Information for Agricultural Development and Rural Well-Being.

IICA in the Caribbean

During the decade of the seventies, IICA expanded its scope and extended its work into the Caribbean.

Ten States in the Caribbean are currently members of IICA. These are Barbados,

Dominican Republic, Dominica, Grenada, Guyana, Haiti, Jamaica, St. Lucia, Suriname and Trinidad and Tobago. As political independence is the major criterion which determines eligibility to membership of IICA, then at least three states St. Vincent, St. Kitts-Nevis and Antigua, may soon apply for membership.

IICA's objectives in the Caribbean are to support Ministries of Agriculture in attaining the goals of their agricultural development programs. IICA aims to:

- a. provide technical expertise in project preparation for external funding.*
- b. to act as a forum for cooperation and the exchange of ideas and experiences among Caribbean States and between Caribbean and Latin American States.*
- c. to strengthen national institutions for the generation and transfer of technology.*
- d. to develop human resources by promoting formal and non-formal training to improve productive efficiency and to promote the involvement of rural people in development.*

Technical Cooperation in the Caribbean

In 1983, IICA is involved in over 100 activities in collaboration with member Governments of the Caribbean. These activities vary from small actions such as assisting Governments to send participants to the Annual Meeting of the Latin American Agricultural Information System (Agrinter) to the Hillside Project in Jamaica where IICA has collaborated with the Jamaica Ministry of Agriculture in developing a novel hillside farming system. Eighty percent of Jamaica's territory has a grade of over 20 percent. The Project found viable alternatives for cultivating yams and other traditional crops; studied the characteristics of hillside lands; showed that new cropping methods improved soil conservation; and demonstrated that different types of crops planted simultaneously would improve overall production. These positive results prompted the Jamaican government to request that the

project be expanded from the initial 600 acres to 1073 acres, for a new 36-month period with funding from the Inter-American Development Bank.

In Barbados, IICA is collaborating with the Ministry of Agriculture, Food and Consumer Affairs in the development of a marketing plan for small farmers. This project seeks to assist the Government of Barbados to define and implement a marketing plan for small farmers with particular emphasis on improving small farmer participation in the rural development process.

In Guyana, a project on increasing small farmer production and productivity is being implemented. This project aims at raising the incomes and development of technological skills and management capability of the target group of farmers.

In Trinidad and Tobago the Institute is assisting in the development of a national agricultural information system and in the rehabilitation of the cocoa industry. Over the last five years, IICA has been involved in technical cooperation activities in agricultural research at both the national and inter-national levels in the Caribbean. These efforts are directed towards strengthening national agricultural research systems and also the coordination of research activities in the region. Two workshops on this area have been held. The first in Haiti in 1977 and the second in Barbados in 1981 on "the Organization and Administration of Agricultural Research."

On the basis of the recommendations of these meetings, IICA has assigned an Agricultural Research Specialist to the IICA Office in Trinidad and Tobago to:

- i) Collaborate with the Caribbean Agricultural Research and Development Institute (CARDI), and The University of the West Indies (UWI), facilitating wider contact and interchange of staff with the agriculture of tropical America, and the development of joint IICA-CARDI and IICA-UWI collaboration in programmes and projects.*
- ii) Collaboration with the UWI magazine, "Tropical Agriculture."*

iii) *Collaboration with the UWI in the formation of the equivalent to a Caribbean Agricultural Research Society.*

In project preparation IICA has been collaborating with the Caribbean development Bank in the operations of a project preparation unit in Barbados. This unit aims to assist countries in the preparation of agricultural projects for external funding. The unit recognizes the severe lack of technical expertise in project identification, project design and project management and attempts by country studies, training, management assistance and project elaboration to address this problem.

The Regional Programs in Plant Protection and Animal Health have made considerable contributions so far. Note-worthy is the formation of a Society for Plant Protection in the Caribbean and the establishment of a surveillance system for animal diseases.

IICA will continue to cooperate with the countries of the Caribbean in Agricultural development in all areas subject to the requests of the countries. Dr. Warren Forsythe, Dr. Lynden McClaren and Dr. Segura will provide details on IICA's work in technology transfer. ■

Seminar on Integrated Pest Management

IICA Opinions Towards the Development of Integrated Pest Management Systems in the Caribbean

Held at The University of the West Indies, Mona, Jamaica

• March 19th - 20th, 1984

The IICA Plant Protection Program for the Caribbean which was initiated in 1980 has as its general objectives:

To establish a mechanism, for the coordination of the work in phytosanitary problems of economic importance in the region, including those actions oriented toward:

- a. The prevention of diseases and pests of economic importance, in geographic areas free of them;***
- b. The control and eradication of pests and diseases of economic importance in geographic areas where they already prevail, and which can become a serious threat to other regions or countries;***
- c. Procuring and adequate use of agricultural pesticides, reducing risks to workers that handle them; avoiding toxic residues in crops which can be harmful to man and domestic animals or endanger wildlife and the other alterations to the ecological equilibrium;***

- d. *Fostering and supporting of research, training, information, and the improvement of legal instruments in the field of plant protection.*

While Integrated Pest Management as a specific approach to pest and disease control is not mentioned in these objectives, the intent of objective C embodies the concept and the program has sought to focus on integrated pest management as one aspect of its pest and disease control strategy.

The program recognises, however, that the implementation of any successful pest management program in the countries of the Caribbean will require trained personnel. In this regard, the program in collaboration with the Consortium for International Crop Protection, The University of the West Indies, CARDI, Caroni Limited, CIBC and the Ministry of Agriculture, Lands and Food Production of Trinidad and Tobago mounted the first course in Integrated Pest Management at the St. Augustine Campus of the University of the West Indies from August 10th - 21st, 1981.

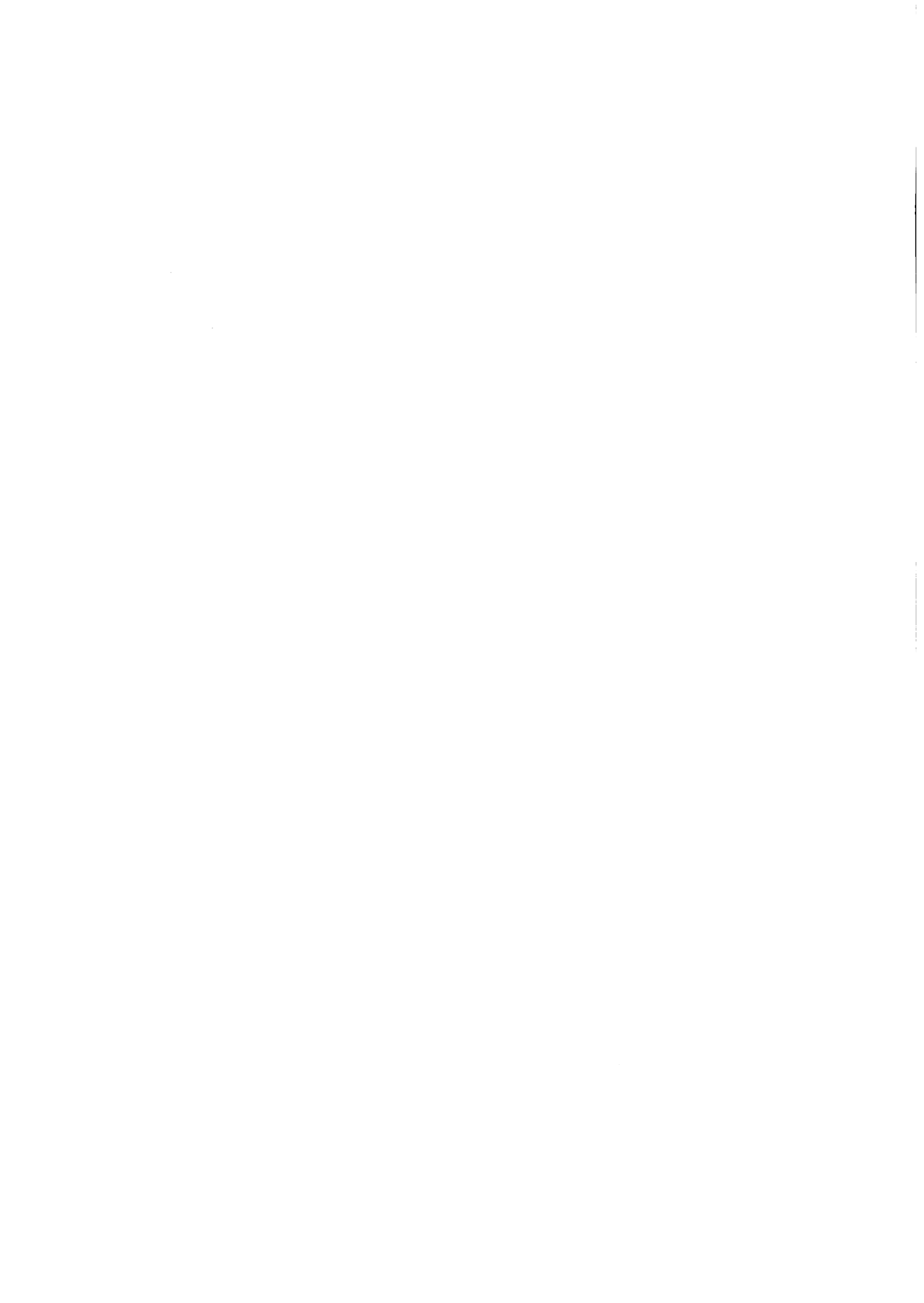
The course was exploratory and was not designed to provide IPM "techpaks" but rather to discuss and understand the basic principles of IPM and to indicate how one may set about planning an IPM strategy for a crop. As a result of this course it became clear that a considerable amount of information which is necessary for the development of IPM systems is not available. As a result it was agreed that studies in the following areas were necessary.

- a. *Determination of the pest status of the various arthropod species associated with the major crops in the region.*
- b. *Basic biology and ecology studies of major pest species identified for the important crops in the region.*
- c. *Development of standard and simple sampling techniques which even farmers could understand and perform.*

- d. *Methods for the assessment of crop losses*
- e. *Establishment of economic threshold levels for major pest species.*
- f. *Studies to determine indigenous natural enemies of pest species and the contribution they make to pest mortality.*
- g. *A study of the many indigenous farm management systems in the region especially with respect to pest control practices. Hopefully this would identify the role and effectiveness of existing cultural control practices in local agricultural systems with a view of incorporating such systems in a pest management strategy.*

Training in Integrated Pest Management was to be encouraged at all institutions of agricultural training in the region and proposals for the development of a curriculum of an Integrated Pest Management was proposed.

Since this course, it has become increasingly clear that reliance on pesticides alone for pest control in the Caribbean is associated with increasing problems including the build up of resistance, deleterious effects on man and the environment and high cost. IICA stands ready to collaborate with national, regional and international organizations in fostering the development and implementation of Integrated Pest Management programs, in the Caribbean. ■



Research Workshop

Held at The University of the West Indies

• April 9th - 11th, 1984

Mr. Chairman, Pro Vice Chancellor. Distinguished Guests, Colleagues, Ladies and Gentlemen.

I must admit that I feel a bit nostalgic and strange being formally introduced to so familiar an audience and such familiar surroundings. Nevertheless, I thank you for your kind words. It is just over a year ago when I was asked to be the Director of the IICA Office in Trinidad and Tobago and I remember that one of the first things I did after assuming the post was to hold discussions with the Dean of the Faculty of Agriculture in order to identify how IICA and the Faculty may cooperate in achieving our common goal of improving the agricultural sector in the Caribbean. There were several suggestions which came out of these discussions and I am pleased to say today that this seminar/workshop represents that implementation of the third of these areas of cooperation. The first was the visit of Professor Wilson to IICA and CATIE in Costa Rica to observe the physical facilities and the Human Resources of those institutions as a mechanism for identifying more clearly areas for cooperation. The second was the visit late last year of Dr. Basil Bartley of CEPLAC-IICA, Brazil to the Cocoa Research Unit to assist in the identification of cocoa germplasm.

We believe that in presentation of this workshop on the Identification, Design and Presentation of Research projects, IICA is sharing its experiences with the Faculty. IICA does not consider itself as the last word or the world experts in project preparation, but we are convinced that the 42 years of existence of the institution in which it has acted as both the donor and recipient of research grants qualifies it to assist in this area. In so doing, we are developing one of the key areas of IICA basic strategy of institution building in which assistance is provided to help countries and institutions do what they are already doing, better. We are aware that the faculty has been attracting a substantial amount of funding for research in the past, however, international funding is becoming scarcer and more competitive and you are no doubt aware in any competitive situation, only those who are best prepared will survive. And so we see this workshop as another step in our collaborative efforts.

Just recently we agreed with the Department of Crop Science to participate in a project designed to investigate the mechanisation of cocoa production in Trinidad and Tobago using the Argo-machine as the basis of the exercise. We have recently been asked by the Ministry of Agriculture with the approval of cabinet to assist in the development of a national agricultural information system within the context of the Ministry of Agriculture.

We have initiated discussions with the Librarians of the University in order to obtain their collaboration in the exercise.

We hope eventually to be able to coordinate these efforts within the context of a memorandum of understanding between our two institutions and I am pleased to say that a draft document has been submitted for our consideration.

In closing, we hope that this workshop will be the beginning of a long and productive relationship and you will leave here convinced that your time was well spent. I thank you and I take this opportunity to wish all persons associated with this effort the very best. ■

Workshop on Poultry Diseases and Management

• ***May 22nd - 26th, 1984***

In 1979, at the Seventh Inter-American Conference on Agriculture which was held at Tegucigalpa in Honduras, the Ministers of Agriculture expressed their concern about the status and spread of animal diseases in the Hemisphere and recommended that the Director General of IICA develop proposals aimed at establishing a program on animal health. This program which became operational in 1980 has as its main objective:

The support of countries of the Hemisphere in preventing and reducing economic loss caused by animal disease.

Specifically, it aims to:

- a. Identify, detect and estimate damage caused by the principal diseases.*
- b. Prevent, control and/or eradicate these diseases.*
- c. Plan, coordinate and implement programs for reducing the incidence and preventing the appearance and spread of the principal diseases.*

- d. Plan, coordinate and implement programs for research and the exchange of personnel and information on animal diseases.*
- e. Generate mechanisms for upgrading the physical, human and financial resources of animal health institutions, according to the levels of responsibility that have been assigned them.*

The strategies involved in achieving these objectives include:

- a. The upgrading and standardization of national and international legal provisions and regulations governing animal health.*
- b. The formulation, implementation and evaluation of multinational projects that involve economically important diseases of mutual interest to several countries.*
- c. The formulation, implementation and evaluation of high-priority projects at the national level.*
- d. The use of technical and human resources from other IICA programs, from CATIE, and from national institutions with experience in this field.*
- e. Coordination with other international, regional and subregional entities of the inter-American and world systems including PAHO, OIRSA and FAO.*
- f. The operational and technical reinforcement of national institutions.*
- g. The organization and promotion of gatherings, seminars and other events for consultation and orientation, to establish guidelines for work and for high-priority actions.*

- h. The use of scientific associations for animal health, as a forum for studying health problems in the countries, the subregions and the hemisphere.*
- i. The participation of farmers' organizations, field workers and the rural population in campaigns to control pests and diseases, as well as in quarantine measures.*

At the Regional meeting of Heads of Animal Health held in Haiti during November 1982, the Delegate of Trinidad and Tobago, Dr. Ernest Ceasar, reported on the problems associated with broiler production in his country. Dr. Ceasar reported that a special unit was established within the Veterinary Services Division to provide assistance in the surveillance of imported eggs, baby chicks, hatcheries, broilers, layers and breeder flocks for important poultry diseases and other problems. Dr. Ceasar concluded that for this unit to carry out its functions effectively, there was need for training of the field staff in poultry farm management, clinical diagnosis and control measures of poultry diseases. What was needed was a short course in the classroom and laboratory together with a period of practice in the field supervised by knowledgeable and competent professionals. No such program is currently operational in the Caribbean. I am pleased to say that with the assistance of Central Soya of Trinidad and the IICA Animal Health Program for the Caribbean headed by Dr. Franz Alexander we were able to obtain the services of three distinguished scientists in the field of poultry diseases to carry out this seminar. First, I would like to introduce Dr. Stanley Vesey of the University of Georgia. Secondly, Mr. John Glisson from the University of Georgia, U.S.A. and finally Dr. Allyn Dietzel from Central Soya in Indiana, U.S.A.

This workshop is all part of the "Manpower development and Institutional Cooperation project of the Regional Animal Health Program." It is especially gratifying that this workshop seeks to accommodate the interest and collaboration of poultry farmers as their involvement in such activities is vital for mutual understanding and for tackling successfully the problems which the industry may face in the future.

This workshop has been promoted by the Veterinary Services Division of the Ministry of Agriculture, Lands and Food Production, headed by Dr. Vincent Moe, and the size and diversity audience today is telling evidence of the good work that has been done in publicising this event. I congratulate all those who have worked together to achieve this beginning and it is my hope that what takes place during the next four days will be a practical and rewarding experience and that it will contribute in some way towards the improvement of the poultry industry in Trinidad and Tobago. ■

World Food Day ,1984

On the occasion of World Food Day, 1984, the Inter-American Institute for Cooperation on Agriculture (IICA) salutes the Agricultural Community in Trinidad and Tobago with warm wishes for continued success in increasing food production. The Institute is aware that the task of feeding this nation is beset by many challenges and difficulties which are rooted deeply in the historical mode of producing crops for export. Nevertheless, the Institute remains confident that the cooperative spirit, the commitment and the will to succeed which has been manifest in the past few years will contribute greatly to the resolution of the problems.

In 1984 IICA is involved with four main projects in Trinidad and Tobago. These are:

- 1. The implementation of a project to establish a National Agricultural Information System.*
- 2. Provision of technical assistance for the rehabilitation of the cocoa industry.*
- 3. Collaboration with Regional Agricultural Organizations.*
- 4. Strengthening of Plant Protection System.*

In addition to these projects and in accordance with the proposals of the Medium Term Plan (1983-1987) of the Institute, IICA is committed to assisting Trinidad and Tobago in any of its programs which are designed to strengthen the agricultural sector. In addition, IICA will continue to cooperate with Trinidad and Tobago in developing an efficient agriculture based on the use of technology appropriate to the needs of the country, in order to produce and market agricultural products for domestic consumption and industrial use, import substitution, generating exports, and replacing conventional sources of energy. IICA will also collaborate with Trinidad and Tobago to improve the standard of living of low-income rural populations, through actions to incorporate them into the agricultural development process or generate alternative sources of employment, thus raising their incomes and increasing their participation in achieving and enjoying the benefits of integrated development of the country. ■

The Third Meeting of Directors of Animal Health in the Caribbean (Resantillas III)

Held at the Trinidad Hilton Hotel

• November 21st, 1984

***Mr. Chairman, Honourable Minister, Director of IICA Animal Health Program,
Distinguished Guests, Ladies and Gentlemen.***

***I am indeed pleased to have the honour and privilege of addressing this distinguished
audience on the occasion of the third meeting of Directors of Animal Health in the
Caribbean.***

***During the recent past, the foundations of Caribbean Agriculture have been shaken and
it has now become necessary to find new foundation stones on which to continue to build.
The traditional markets for the principal export crops -- sugar, bananas, cocoa, nutmeg
etc. have become increasingly uncertain and the prices for these commodities continue to
decline. In addition, the cost of domestic production continues to increase and now far
exceeds the current market prices. Added to this, the countries have been experiencing
increasing food import bills, now estimated for the region at 1 billion (U.S.) dollars. Faced
with these two very grave sets of circumstances the Governments have redirected their
attention and policies to improving and increasing domestic food production and at the
same time to the diversification of their production of export crops. In the case of the
remaining sugar producing countries (Jamaica, Barbados, Trinidad and Tobago and
Guyana) the new policies have been oriented to the rationalization and consolidation of***

the industries, whereas the smaller Eastern Caribbean Countries traditionally dependent on banana production, are addressing their agricultural policies to other potential export crops.

In all of these countries livestock production has perhaps been the weakest or most neglected sub-sector. This has been recognized in both national and regional policies for agricultural development. In the Regional Food and Nutrition Strategy, for example, the production of meat and milk has been assigned the highest area of priority.

IICA recognizes the need to assist in the strengthening of animal production and animal health programs in Latin America and the Caribbean and established an Animal Health Program in 1980 with the general objective of assisting Member States in the prevention and reduction of economic losses caused by animal disease. The specific objectives of this program are:

- a. Identify, detect and estimate damage caused by the principal diseases.*
- b. Prevent, control and/or eradicate these diseases.*
- c. Plan, coordinate and implement programs for reducing the incidence and preventing the appearance and spread of the principal diseases.*
- d. Plan, coordinate and implement programs for research and the exchange of personnel and information on animal diseases.*
- e. Generate mechanisms for upgrading the physical, human and financial resources of animal health institutions, according to the levels of responsibility that have been assigned them.*

Earlier this year we cooperated with the Ministry of Agriculture, Lands and Food Production and Central Soya in holding a Seminar/Training Course on Poultry Disease

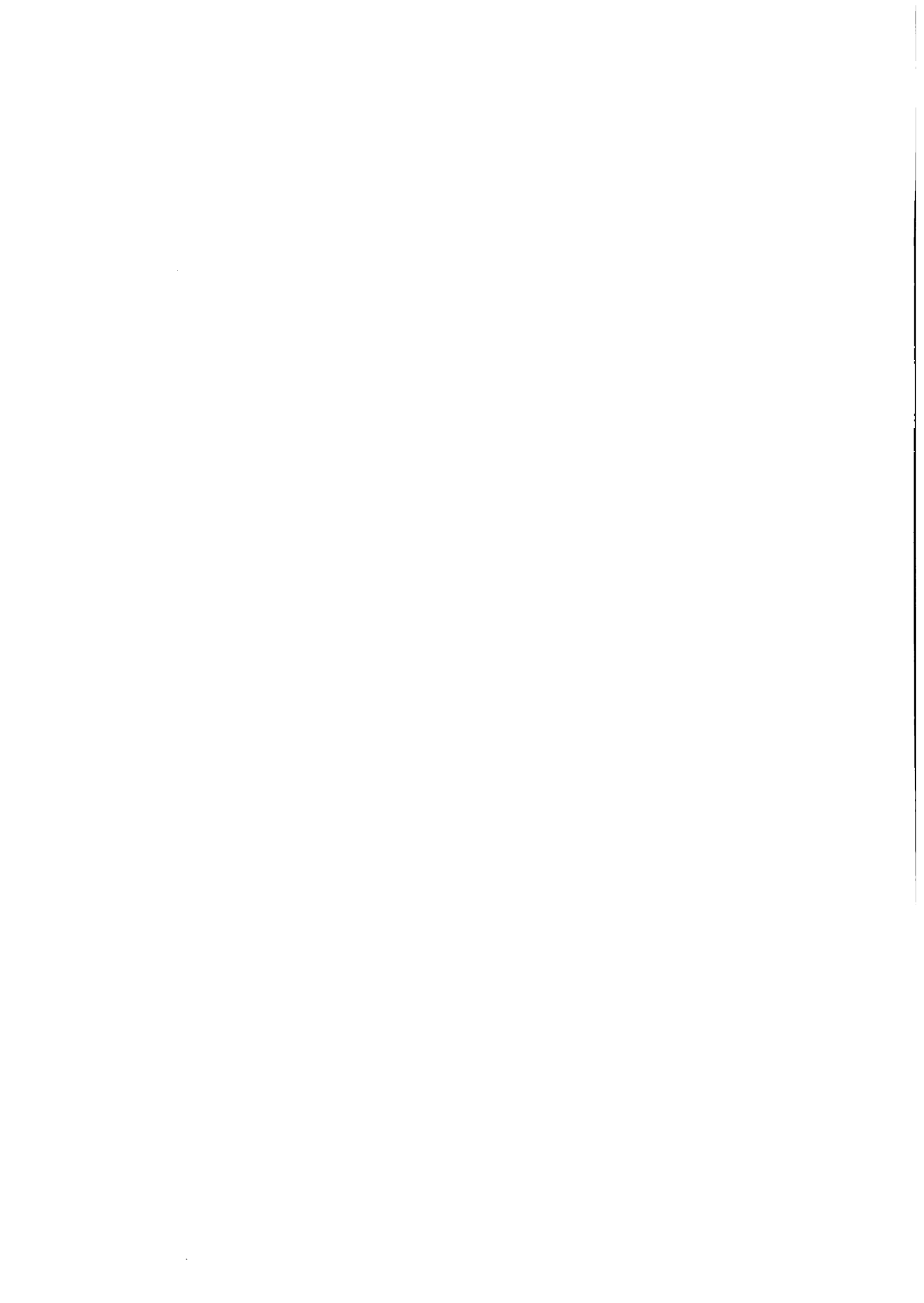
Management in Trinidad which was designed to increase the technical capacity of technicians and farmers in the management of poultry.

The Inter-American Institute for Cooperation on Agriculture (IICA) is grateful for the cooperation and spirit of willingness which we have enjoyed in our relationships with the Ministry of Agriculture, Lands and Food Production and would like to express our deep appreciation for the honour granted to us today in having the Honourable Minister in our midst.

We look forward to continued cordial relations. IICA is committed to assisting Member Governments of the Caribbean in making the Caribbean a zone free from the fears of the danger of animal diseases and looks forward to cooperating with other agencies in this bold endeavour.

As Directors of Animal Health in the Caribbean, you are an important element in the achievement of this endeavour and it is my hope that this meeting will be a further step in our progress to this goal.

In the name of the Director General of IICA, I welcome all of you and hope that your deliberations will be fruitful and constructive. ■



Policy Statements and Other Aspects of Trends in Agricultural Policy and Production in T & T on the occasion of Dr. Francisco Morillos' (Director General of IICA) visit to T & T

• ***June 23rd - 25th, 1985***

1983

Trinidad and Tobago continued to experience the economic effects of the world-wide recession during 1983. The reduced revenues from the petroleum sector, due to lower oil prices and a Government-introduced reduction of taxes on oil companies is having a significant effect on Government revenues, expenditure and employment. The 1983 budget was proposed at TT\$9,951 million with TT\$5,644 million for recurrent spending and \$4,306 million for capital spending. At September 30th the official reserves of the Central Bank were valued at \$5,504.5 million representing a loss of \$1,215 million or 18% since the beginning of the year. The Government has recently received a report of a task force headed by Mr. William Demas, President of the Caribbean Development Bank which was mandated to prepare a multi-sectoral plan for the country. The reports deal with a development plan for Trinidad and Tobago during the period 1983 to 1986 inter alia: (a) a wage freeze in the public service (b) increased indirect taxation (c) a drastic reduction in subsidies (d) full economic pricing of basic utilities (e) increasing Government borrowing on the local market and (f) reduction of expenditure on welfare activities.

Government has recently introduced measures to reduce the drain on foreign exchange. The Food Import Bill is estimated to reach TT\$1,000 million in 1983 and Government has proposed new measures to reduce importation of food, these include (a) banning the

importation of fruits and vegetables, (b) diversification of Caroni Limited (the major sugar-producing company) to produce food crops, (c) the recently established Food and Agriculture Corporation has been mandated to develop projects aimed at food production with processing, (d) sugar production is to be maintained at a level only for domestic consumption.

The thrust into food production by Caroni Limited is a major development in Agriculture in Trinidad and Tobago. Proposals are for the development of beef using the locally bred Buffalypso animal, the planting of citrus and coffee and the production of food crops mainly upland rice, pigeon peas, sorrel, corn and bananas.

According to the Prime Minister "the essence of such a project is to create systems for growing strategic food crops under contractual arrangements which will permit quality control from the pre-harvest stage to processing or sale on the fresh market." This year Caroni has already harvested 50 acres of upland rice.

Mechanization of agricultural enterprises is expected to be a major factor in the revitalization of agriculture in Trinidad and Tobago. This will be necessary because of the high cost of labour in Trinidad and Tobago. There is some evidence that the slowing down of the economy resulting from the recent decline in the price of oil will result in retrenchment of workers and unemployment in some sectors of the economy. It is left to be seen, however, whether such circumstances will result in a greater availability of labour in the agricultural sector.

The major social concern in Trinidad and Tobago at present relates to the 1983 budget where the prices of basic commodities have been increased because of the removal of subsidies and the possibilities of increased unemployment as a result of downturn in the economy resulting from the factors referred to above.

The Central Bank of Trinidad and Tobago predicts "that the Country will face heightened industrial activity, higher unemployment, higher inflation and increased political activity

as the local economy grapples with the downturn in the oil industry." The Bank predicts that unemployment will reach 10.5% in 1983 and 11.3% in 1984.

The major concern in employment circles is the erosion of incomes as a result of higher prices, increased inflation and the increasing possibility of high wage demands which the country cannot afford. In recent years, salary increases of 50% - 75% have been common in Trinidad and Tobago.

The cost of living is expected to rise by 273% in 1983 according to one report based on the 1983 budget proposals. This is likely to rise higher soon with the transport, telephone, water and electricity companies approaching the Public Utilities Commission for an increase in the rate of these utilities. In fact, the utilities are expected to operate without Government subsidies from 1984.

1984

Trinidad and Tobago continued to experience the economic effects of the downturn in the economy which began in 1983. The reduced revenues from the petroleum sector owing to lower oil prices and a continued reduced demand for oil have had significant effect on Government revenue, expenditure and employment. According to the Quarterly Economic Bulletin of the Central Bank of Trinidad and Tobago, at September 30th, 1984, foreign exchange reserves now stand at 3.1 billion TT\$ (1.00 - 0.41 U.S.) down from TT\$ 5.5 billion at September 30, 1983. This represents a 34.9% decline compared to the previous balance at September 30th, 1983. The external assets of the Central Bank fell to 3,292.7 million or 11.6% below the level of the previous quarter. Interest on foreign investment in the third quarter amounted to TT\$ 84.2 million which represents a decline of 29.5% from the receipts obtained in the corresponding period in 1983. In-flow from oil taxes and royalties amounted to 1,313.3 million for the first nine months of the year, a decline of 6.9% when compared with the corresponding period for 1983.

The Government continued to pursue some of the proposed measures of the Demas task force report in order to come to terms with the new economic realities. These include

increased indirect taxation, full economic pricing of basic utilities, increased government borrowing on the local market, reduction of expenditure on welfare activities and a drastic reduction in subsidies. The major concern in Trinidad and Tobago today relates to the increased cost of living resulting from the budgetary measures and the increased unemployment which is resulting from the downturn in the economy. There is increased industrial relations problems as employees, labour unions and employers grapple with the new economic realities of life in Trinidad and Tobago.

The agricultural sector continues to enjoy considerable attention and several public utterances from many sectors of the society as to its importance. During 1984, the vegetable, poultry, pigs and fish subsectors continued their good performances of the past few years.

Decreases in production continue to be realised in the traditional export crop sectors -sugarcane, cocoa, coffee and citrus. The Ministry of Agriculture, Lands and Food Production has recently initiated a citrus rehabilitation plan designed to increase the production of citrus.

The major thrust in agricultural production which is being anticipated from Caroni (1975) Limited is still to be realised. The company has recently embarked on the production of increased quantities of rice, cassava, pigeon peas and meat from the buffalypso animals but it is too early to evaluate the success of those initiatives. The Food and Agriculture Corporation has recently embarked on a \$20 million project aimed at satisfying 25% of local demand for hatching eggs by 1988. This project is sited at County Caroni. The Ministry of Agriculture, Lands and Food Production has initiated the handing over of State Lands to farmers in order to increase the security of tenure associated with agricultural production.

1985

In his 1985 Budget, the Prime Minister reiterated the agricultural policy of the Government for 1985 which includes:

1. *Redirection of resources previously used for export crops to local food production.*
2. *Discontinuation of production subsidies.*
3. *Development of production contracts with farmers for the production of selected crops.*
4. *Production of sugar for local consumption only.*

These initiatives seem to be having a significant effect on agricultural production and productivity.

In early 1985, for the first time in many years, there was a dramatic increase in vegetable production to the extent that prices of locally grown vegetables fell considerably. This might have been due to a combination of circumstances including the ban on the importation of vegetables and favourable weather conditions. So good has the production been that the Ministry of Agriculture, Lands and Food Production is considering establishment of processing and cold storage facilities to cope with the production. There is obviously a need for a more effective market system and better rationalisation of production in order to reduce the possibility of similar gluts in vegetable production.

Two private sector proposals which were recently announced can have far reaching benefits for the agricultural sector (a) the establishment of a breakfast cereal factory in Southern Trinidad and (b) the establishment of a \$50 million beef enterprise. The former will utilize corn, rice and sugar from local farmers while the latter will utilize sugarcane in livestock feeding.

1. *Development of a project on the rehabilitation of tree crop production to assist in the revitalization of citrus and cocoa production. This project aims to introduce labour saving technology into the tree crop sector by mechanization. Studies carried out by the University and financed*

by the Institute has shown that an all terrain vehicle, called the "Argo" can assist in the mechanization of tree crop production with returns to labour which are considerably higher than traditional labour intensive approaches.

- 2. The establishment of an Agricultural Information System aims to improve the library system of the Ministry of Agriculture and to put in place a system which will allow for better utilization of agricultural information by researchers, extension officers and farmers.*
- 3. Strengthening the Plant Protection capability of the Ministry of Agriculture, Lands and Food Production. This project aims to improve the capability of officers of the Ministry in the diagnosis and control of plant pests and diseases. In addition, Plant Quarantine Officers are being trained to increase their awareness of the need to protect the agricultural resources of the country by preventing the introduction of foreign pests and diseases.*
- 4. In addition to the above three project areas, IICA has also been assisting in the areas of Animal Health, Project preparation and Training in Public Information. Collaboration with regional agencies such as The University of the West Indies and the Caribbean Agricultural Research and Development Institute have also been fostered. The local office looks forward to increased involvement in the agricultural sector as the new awakening in agriculture in Trinidad and Tobago unfolds. ■*

The Opening of the 17th Annual Meeting of the Organization of Tropical American Nematologists (OTAN)

Held in Trinidad

• July 29th - August 2th, 1985

On behalf of the Director General of IICA, I am pleased to say that the Inter-American Institute for Cooperation on Agriculture (IICA) is honoured to be associated with the Seventeenth Annual Meeting of the Organization of Tropical American Nematologists and wishes all delegates a warm welcome to Trinidad and Tobago.

Our Institute attaches great importance to establishment, growth and development of professional organizations and this is clearly expressed in the convention establishing the Institute in Article 4, Clause C which states: "To achieve its purposes the Institute shall establish and maintain relations of cooperation and coordination with the Organization of American States and with other agencies, or programs with governmental and non-governmental organizations that pursue similar objectives."

In 1976, IICA established a secretariat at its headquarters to assist professional organizations. The general objective of the secretariat is to stimulate and promote the development of scientific professional associations related to the agricultural sector and to support their operations.

Specific Objectives

- a. *To develop letters of understanding or agreements, and to prepare the budgets of allocations IICA has available for scientific professional associations;*
- b. *To increase the level of participation in technical meetings in the Americas;*
- c. *To promote IICA's activities in the publications produced by the professional associations, and among association members;*
- d. *To use the IICA offices in the countries to promote increased support from the national affiliates of the professional scientific associations;*
- e. *To identify and develop specific projects in conjunction with the scientific associations.*

IICA's monetary contribution to professional organizations has increased by 70% over the past three years.

From May 15th - 17th, 1985, a meeting was held at IICA Headquarters with heads of Professional Scientific Associations in the field of Agriculture of the Americas to identify how IICA may better assist such organizations. A list of recommendations has been drawn up and areas for assistance have been identified for actions.

It is our view that professional organizations are an important complement to our work in agricultural development and we will continue to assist within the limits of our financial capabilities.

Again, may I welcome you all and may your deliberations be stimulating, productive and may they contribute to improvement of the agricultural sector in Latin America and the Caribbean. ■

A Seminar on Pests and Diseases as Constraints in the Production and Marketing of Fruits in the Caribbean

Held in Barbados

- ***September 30th - October 3rd, 1985***

This seminar arose out of discussions held between the personnel of IICA Plant Protection Program and IICA Fruit Development Project in Barbados and the basic idea was endorsed by the Heads of Plant Protection of the Caribbean as recommendation No. 7 at their meeting in Barbados last year.

This seminar seeks to:

- a. Develop an awareness of those pests and diseases which limit the production of fruits in the region;***
- b. Identify methods of controlling these pests and diseases;***
- c. Examine the impact of pests and diseases on the marketing of fruits, both regionally and extra-regionally;***
- d. Provide a basis for inter-country cooperation in preventing the movement of fruit pests and diseases in the region;***

- e. *Identify the plant quarantine requirements for the export of fruit both within the Caribbean and in North American markets.*

The seminar was formulated on the following premises that:

1. *The fruit subsection can make a significant contribution in the agricultural diversification efforts of member states of the Caribbean;*
2. *Pests and Diseases can represent significant non-tariff barriers to regional and extra-regional trade;*
3. *The recent decision to remove barriers to intra-regional trade in primary agricultural products in the Caribbean increases the risk of spread of plant pests and diseases;*
4. *That there is a significant resource on fruit pests and diseases in the region. The resources of CARIRI, CARDI, UWI, FAO, APHIS/USDA and IICA is being utilized in this seminar;*
5. *That regional cooperation can be more effective than individual efforts of member states.*

The seminar recognized that the opportunities which have become available under the CBI and the Lomé III can be nullified by non tariff barriers such as pests and diseases unless steps are taken to remove these potential constraints to marketing of fruit.

Last year, the IICA plant protection program cooperated with the USDA and APHIS authorities in the establishment of proposals for carrying out a survey of certain islands in the Caribbean for the incidence of fruit flies. Since then a protocol has been drawn up with the respective countries for implementation of this project. Should the results of the survey show the absence of fruit flies, there will be a basis for the entry of fruit from these countries into the United States markets.

It must be emphasized that pest and disease incidence are dynamic occurrences and consequently the absence of fruit flies today, does not mean their absence next year and it will be necessary for the respective countries to put in place the relevant quarantine infrastructure to ensure that their countries remain free of pests.

The importance of pests and diseases in production and marketing is sometimes underestimated and it is necessary to refer to concrete examples to make the point. The case of Moko disease of banana which was discovered for the first time in Grenada in 1978 provides an excellent example of the kinds of problems diseases can cause. According to a report by Dr. Gene Pollard, Moko disease has, so far, cost the Grenadian authorities \$5 million for its control and it still poses a serious threat to the banana industry in that country and in the Eastern Caribbean.

I hope that the seminar will achieve its objectives and I welcome all of you. ■

The 21st Anniversary of the Harland Society

The Harland Society in Historical Perspective

Held at The U.W.I., St. Augustine, Trinidad

• *January 24th, 1986*

I would like to express my thanks to the present Executive of the Harland Society for inviting me to say a few words to you this evening. I am not sure why I was chosen to do this particular chore but I suspect that having been a member of the First Executive and being the only member of that Executive in Trinidad then I guess the choice was obvious.

During the Christmas Holidays of 1964, George Wilson, (now Dr. George Wilson, International Institute of Tropical Agriculture, IITA, Nigeria), Andrew McMillan, (now Dr. Andrew McMillan, F.A.O. Investment Division, Rome, Italy) and myself met together in Milner Hall and discussed the formation of an organization of agricultural students. During the weeks that followed we had considerable discussion with fellow students and staff about the proposed association or society of agriculture students. There was general agreement with the idea. The result of our discussion was the formation of the Harland Society on January 28th, 1965.

The aims of the Society as set out in the constitution were:

- 1. To provide a meeting place for all persons on the campus who are interested in agriculture;*

2. *To give members a broader agricultural outlook; and*
3. *To help members to take an active part in the Agricultural activities of the Caribbean.*

Raghavan N. Iyer in the paper entitled, "The Social Structure of the Future", wrote, "The meaning of education is the unfolding in individuals of the capacity to choose effectively, to set themselves the highest standards of excellence, to exemplify tolerance and civility in relation to others, to empathize with the achievements and failures of men everywhere, and to see life as a process of continuous self-education." It is in the context of this broad view of our own education which motivated us in forming the Harland Society, for we were convinced that education does not begin and end with formal lectures of the classroom, culminating in an examination and ultimately a degree but transcends these narrow boundaries into the real world.

One is immediately curious as to why the Harland Society and why not Agricultural Society or some other name. To say the least we had about 25 suggested titles and after an entire evening of discussions we finally decided that Harland was the most appropriate. But who is or who was Harland? To answer I will read a vita of Harland written in 1965 by J.W. Purseglove, a former professor of the University.

"Sidney Cross Harland was born in Yorkshire in 1891. He was educated at Scarborough High School and King's College, London University. His first appointment was that of Assistant Superintendent of Agriculture, St. Vincent in 1915. He then became Assistant for Cotton Research in the Imperial Department of Agriculture for the West Indies in Barbados in 1918. From 1920 to 1923 he was Head of the Botanical Department of the British Cotton Growers Research Association in Manchester. He returned to the West Indies in 1923 to become the second professor in Botany and Genetics in the recently founded Imperial College of Tropical Agriculture (ICTA) here at St. Augustine.

I.C.T.A. had been founded in 1921 and the senior staff of the Imperial Department

of Agriculture in Barbados were transferred to Trinidad as its first professors. The Imperial Department as such was then closed down and we were fortunate to obtain its library as well as its staff. T.G. Mason was the first Professor of Botany, but he left after a year to become Economic Botanist in Nigeria. On arrival in Trinidad, Dr. Harland (he was a D. Sc. of London University) began an active programme of research and laid the foundations for the subsequent research on cocoa and bananas for which I.C.T.A. became renowned. He was the first person to record self-incompatibility in cocoa and to realise the possibility of breeding banana cultivars resistant to Panama Disease by crossing 'Gros Michel' with wild seeded diploids. This led to the production of 'ICZ' in 1928, which up to two years ago, was the only bred banana that passed beyond the experimental stage. In 1925 Harland made a six months tour to the Far East to investigate and collect material for breeding resistance to Panama disease in bananas and withertip in limes. His itinerary included, Panama, California, Hawaii, Japan, Formosa, The Phillipines, Malaya, Burma and Ceylon. His interests were not confined to plant breeding alone; he gave a paper on 'Poultry Keeping in the West Indies' to the Tunapuna Branch of the Agricultural Society in 1924 and had hopes of breeding a featherless hen.

In 1926, he addressed the Trinidad and Tobago Medical Society on 'Human Heredity in relation to Medical Studies.' In 1926, when the Empire Cotton Growing Corporation opened its Cotton Research Station in Trinidad on the land now occupied by University houses north of the Eastern Main Road, S.C. Harland was appointed Head of the Department of Genetics with J.B. Hutchinson (now Sir Joseph Hutchinson, Draper's Professor of Agriculture, at the University of Cambridge), as his assistant. T.G. Mason was appointed the Head of the Department of Plant Physiology with E.J. Maskell as assistant. All these men were later elected Fellows of the Royal Society - a very remarkable record.

Harland left Trinidad and went to Brazil in 1935 to be General Advisor to the State Cotton Industry at Sao Paulo and from 1939 to 1950 he was Director of the Institute of Cotton Genetics in Peru. He was appointed to the George Harrison Chair of Botany at the University of Manchester in 1950, from which he retired in 1958 on reaching

the age limit. He was then made Professor Emeritus. In 1950 he was also made a member of the British Agricultural Research Council. He was elected a Fellow of the Royal Society of Edinburg in 1951.

His book 'Genetics of Cotton' was published in 1939 and is still a standing work. He has contributed many original papers on cotton, cocoa and other tropical crops, as well as on applied genetics, to many learned journals. He was invited to be director of the Coconut Research Station in Ceylon in 1951 but stayed there only a short time due to the political situation."

To us Harland represented a man whose academic excellence and achievement contributed greatly to scientific agriculture and we felt his contributions were considerable.

The challenges for agriculture are no less today than they were 21 years ago when we formed this society. As a matter of fact the challenges of today are greater. The reasons for this are as follows:

- 1. The place of traditional exports in world agriculture has diminished so that traditional export crops are no longer major foreign exchange earners;*
- 2. The demand for food is increasing as population levels increase;*
- 3. The special advantage (comparative advantage) in the production of certain crops which these countries had, has disappeared.*

Coming to grips with these challenges will require men and women with breadth of vision, leadership ability, management expertise and new ideas to give agriculture a new focus and a new direction. This new focus, this new direction will require development of creative and constructive capabilities, which to me is another way of saying 'leadership'. The Harland Society can be the source of such leadership.

What is leadership? Leadership is that intangible quality which inspires confidence and

creates the environment for development of excellence. In developing leadership you also develop management skills - the management of people, information and finances.

John Hutton in a recent article entitled "Strategic Management for the Developing Countries in the 1980s" writes:

"One of the most fundamental difficulties facing development has been the lack of adequately trained or motivated managers to fill the middle or senior strategic roles in enterprises. The colonial period had often left the people woefully under-educated for anything but the simplest, almost menial tasks. A few had been educated to a very high level in academic disciplines which, alas, unfitted them both intellectually and psychologically for becoming junior managers and gradually developing managerial and technical competence. It is not unusual in many developing countries to recognise an enormous gap between the basic peasant proprietors and those holding a variety of degrees and professional qualifications from many parts of the world. The 'diploma disease' with its propensity to train people to get jobs as opposed to actually doing jobs, has blighted many development efforts. There has been a serious dearth of a middle management or entrepreneurial class capable of taking on the effective day-to-day running of enterprise and gradually developing through experience into more senior management positions. The need to develop effective managers on the basis of real experience of practical problems is perhaps the most important need for development in the future."

Take advantage of what ever opportunities exist in your stay at the University to broaden your horizons and to develop management capabilities. I am of the view that Harland Society today is as relevant as it was 21 years ago, when we started the Society in this room. I should like to end by quoting from the message of the then Pro-Vice Chancellor, Dr. H. Dudley Huggins, which he gave to the Harland Society at the time of its formation. Huggins said,

"It can be a healthy thing when students of an institution such as ours, organize themselves into Clubs and Societies to discuss topics and participate in activities which enrich and complement those offered by the general day-to-day curriculum. It shows a sign of the realisation that a university education consists of things other

than receiving the formal degree at the end of one's period of study.

The constitution permits that membership be open to anyone connected with the University and interested in agriculture. This to my mind, is a wise approach, in that the society is not a closed shop for members of the Faculty of Agriculture only. There is, I feel, much that can be contributed by persons from other disciplines.

The fact that the society has chosen to adopt the name of the Harland Society, is opportune in that it will serve as a reminder of the fact that in the past the Institution at St. Augustine has made valuable contributions to basic scientific research and knowledge. Professor Sydney Cross Harland, D.Sc., F.R.S., was professor of Botany at the Imperial College of Tropical Agriculture from 1923 to 1926. Professor Harland, an eminent genetist, has contributed greatly to the world's knowledge particularly to the field of the genetics of the cotton plant. I hope the society will uphold the high standard of achievement which characterised the scientist after whom it is named."

May I, on behalf of all those who were associated with the foundations of this Society wish you all continued success in your efforts and may the Society continue to grow from strength to strength. ■

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Dr. Brathwaite was the first Secretary of the Society in 1965. He is currently the Director of the Trinidad and Tobago Office of the Inter-American Institute for Cooperation on Agriculture (IICA).

Seminar on "The Key to Profits after Harvest"

IICA's Role in the Marketing of Food Crops in Trinidad and Tobago

Organised by the Caribbean Industrial Research Institute (CARIRI) and Held at Hilton Hotel

• March 20th - 21st, 1986

The Inter-American Institute for Cooperation on Agriculture (IICA) is pleased to have been invited to participate and to contribute to this important seminar on "The Key to Profits after Harvest" with its emphasis on the importance of postharvest technology in the marketing of food supplies for Trinidad and Tobago.

Our Institute is acutely aware of the need for the effective application of postharvest technology in food marketing and has set out as one of its ten programs in the current medium term plan, a program in agricultural marketing and agroindustry.

This program recognises that the inadequate infrastructure for the handling, storage, preservation and agroindustrial processing of foodstuffs and raw materials has a negative impact on food security and on providing producers with a margin of profit and consumers with acceptable price levels.

The general objective of the program:

- a. To support national, subregional and regional systems for the marketing and industrialization of agricultural and forest products, in order to stabilize supply and demand and sustain acceptable prices for producers and*

consumers, promote food security, ensure that products will be available to meet domestic and export needs, and develop measures that will prevent discrimination against specific groups of producers and consumers.

Specific Objectives

- a. *To design and implement marketing systems able to meet the requirements of quantity, quality and service posed by a rapidly growing urban population;*
- b. *To improve planning and implementation skills in public agencies responsible for monitoring the efficient operation of national marketing and agroindustry systems, and in charge of generating and implementing integrated policies for the production, processing and marketing of agricultural products;*
- c. *To reinforce the action of regional and subregional systems through concerted efforts by various countries for marketing exportable foodstuffs, produce and raw materials of agricultural origin;*
- d. *To design and implement strategies to prevent marketing systems from discriminating against specific groups of producers or consumers.*

Program Strategy

- a. *To promote coordination among the public sectors for agriculture, industry and marketing, in order to develop policies for domestic supply and for promoting exports;*
- b. *To help improve analytical and methodological design skills in economic and sectoral planning agencies in the areas of price policy, food distribution, market forecasting and penetration, inventory management, storage of perishable items, farmer organization and agroindustrial development;*

- c. *To work with public and private entities for rural development, agrarian reform and the development of cooperatives, by designing and promoting marketing strategies for inputs and products so as to improve the terms of trade for small and medium scale farmers;*
- d. *To support agencies for subregional integration, including SIECA, CARICOM, the Cartagena Agreement, and the La Plata Basin Treaty, in establishing appropriate mechanisms for information and alert services on the current and potential demand for traditional and non-traditional products;*
- e. *To work with national marketing agencies in designing and implementing price and market information systems;*
- f. *To support regional systems, such as SELA/ALADI and FAO, and subregional systems, such as SIECA, CARICOM, the Cartagena Agreement, and the La Plata Basin Treaty, in their efforts to penetrate and develop foreign markets for regional goods;*
- g. *To support the promotion of effective mechanisms for coordination between the public and private sectors, to make the marketing and industrialization of agricultural commodities more efficient;*
- h. *To establish regional, subregional and national training programs in marketing, for improving the analytical and operating skills of professional staff in national agricultural marketing agencies.*

In the Caribbean, this program has supported projects designed to improve agricultural marketing systems in Barbados, Grenada and the Dominican Republic.

In 1985, our office received a request from the Ministry of Agriculture, Lands and Food Production in Trinidad and Tobago for assistance in the marketing of food crops in this

country. As a result of this request, IICA assembled a team of marketing specialists from its offices in Barbados, Costa Rica and St. Lucia in Trinidad and Tobago for an on the spot assessment of the situation in food crop marketing for the development of proposals for the Ministry.

As a result of the assessment carried out in collaboration with officials of the Ministry of Agriculture, the Central Marketing Agency, the Food and Agriculture Corporation and other persons and institutions of the agricultural sector, our Institute has made seven recommendations to government for the improvement of food crop marketing in the country and has pledged our support for continued support in the implementation of these recommendations.

While the document produced from this assessment is for restricted circulation with the permission of the Ministry I shall mention some of the recommendations made:

RECOMMENDATION 1 (Traditional Marketing Sub-system)

The private traditional marketing sub-system, as exemplified by green grocers, roadside markets and stalls, has clearly demonstrated its capacity to respond to changing consumer needs and free market forces and to make a positive contribution to the changing market conditions. The quality of services provided and the operations of this sub-system should be examined with a view to providing some essential support and encouraging an orderly development, particularly with respect to location, physical accommodation, sanitation and quality of service of consumers. The model proposed in the Orange Grove Report which involves the establishment of a Green Market Mall should be examined, although fixed investment in infrastructure should probably be minimized.

RECOMMENDATION 2 (Farmers Role in Marketing)

Any policy review geared towards strengthening the marketing system should give consideration to shortening the marketing channel between farmers and consumers. One option to consider is the establishment, in strategic locations, of week-end farmers markets

where farmers can retail directly to consumers; the market intelligence information system should also be improved to provide farmers and consumers with appropriate current and timely information with respect to products in abundance or scarcity prices, alternative products with equivalent nutritional value and availability and others.

RECOMMENDATION 3 (Data collection)

There is a general scarcity of empirical and socio-economic data with respect to recent and/or historical developments of agricultural marketing activities, including the role and influence of farmers, vendors, wholesalers and other participants in the trade, changes in consumption patterns and price determinants. These suggest critical areas for study and investigations by the appropriate institutions and in particular the Faculty of Agriculture, UWI, ADB and the Planning Division of MALFP.

RECOMMENDATION 4 (Market Infrastructure)

The Central Market in Port of Spain and the Municipal Markets represent a reasonable well established marketing network, servicing most of the important population centers. However, with the increase in farmers' wholesale and retail trades, shifts in population, urbanization and increasing traffic density, many of these markets are no longer adequate nor suitably located. They contribute in many cases to traffic congestion and bottlenecks. There is need for a comprehensive review of the entire public marketing system with respect to special location, physical space, facilities and services and general administration. This mission presents a project proposal for seeking financing from IDB to analyse and strengthen the marketing infrastructure in Trinidad and Tobago.

RECOMMENDATION 5 (Market Information System)

There is an urgent need for the creation of an effective agricultural marketing information system. The current efforts should be promoted but there is need for closer coordination and collaboration with a view to improvements in the collection of information, standardization, analysis and timely dissemination of appropriate information to the

respective target groups, such as farmers and consumers. The resources currently available and invested into this activity from the MALFP, CSO, ADB, and CMA should be co-ordinated with assigned roles and functions, perhaps with one of the agencies probably the Planning Unit of MALFP or a co-ordinating unit having the responsibility for organizing and operating the information system. This mission recognizes the link between production and marketing and emphasizes the need for effective mechanisms for crop forecasting in order to facilitate price stability in food marketing.

RECOMMENDATION 6 (Research and Training)

While the curriculum of the national institutions of technical and higher learning, specifically ECIAF and the Faculty of Agriculture, UWI, does provide for some courses in agricultural marketing and post-harvest technology, these programs should be reviewed with a view to giving greater emphasis and specialised training in these fields, as well as undertaking and supporting the relevant research. A national course in post-harvest technology and marketing seems necessary.

Related to the foregoing a number of critical gaps in the marketing information has been identified appropriate for post-graduate and other investigations, including the following areas:

- *Consumption patterns*
- *Evaluation of special location, control and operation of Municipal markets*
- *Role and influence of the small and medium sized farmers in the marketing system*
- *Role and influence of diverse types of intermediaries in the marketing system*
- *Post-harvest handling and losses (qualification and quantification)*

- *Growth, impact and relative importance in the marketing system of super-markets, green grocers, and highway/roadside vendors and mini-markets*

RECOMMENDATION 7 (Marketing Policy)

The recent changes taking place in the national economy and the experiences in the performance of the agricultural sector since the 1978 policy statement (White Paper), suggest the need for a review of the entire agricultural marketing policy in the context of the broader sector policies. In such a review special attention ought to be given to the following areas:

1. *respective roles and areas of responsibilities of the CMA and FAC*
 - *recognizing the absence of autonomy and inadequacy of essential resources of the CMA to satisfactorily undertake its objectives, on the one hand, and on the other hand, the creation of the FAC there is need for an urgent review of national agricultural marketing policies and redefinition of the respective roles of the principal agencies, CMA and FAC, in particular, the former;*
2. *external trade, in particular food imports which have impacted negatively on domestic agricultural production and consumption patterns;*
3. *collaboration and co-ordination between the Ministry of Agriculture and the Ministry of Industry and Commerce, specifically in areas concerned with agricultural trade, food and farm input pricing;*
4. *the potential impact of large scale production of food crops, e.g. from Caroni Limited, on the domestic market and small farmers' incomes;*
5. *possibilities for export of non-traditional agricultural commodities e.g. under the provisions of the CBI;*

6. *incentives to promote efficient vertically integrated agro-processing systems;*
7. *strengthening of plant quarantine systems to affect improvements in exports with respect to the stringent requirements of foreign markets.*

It is our view that the implementation of these recommendations will go a long way in improving the marketing of fresh fruit and vegetable in Trinidad and Tobago and we look forward to cooperating with various government and non-governmental organizations in the implementation of these proposals, as we think that improvement in domestic marketing holds the key to the improvement of food security in Trinidad and Tobago. ■

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A Seminar 'Protecting Our Food Supply'

Held in Barbados

• *April 2nd, 1986*

Mr. Chairman, distinguished guests, ladies and gentlemen, participants. Let me first express my thanks to Mr. Omer Thomas for inviting me to participate in this important meeting. I am pleased to be here to interact with those responsible for "Protecting the Food Supply" of Barbados.

During December, 1985, there was a seminar on "Food Security in the Caribbean" which was held under the auspices of the Economic Commission for Latin America and one of the conclusions of the seminar was that in this part of the world the food security situation is generally unsatisfactory. In the event of a major crisis which could cut off food supplies from outside, the ability of the Caribbean territories to feed themselves even over a short period was limited.

Given the precarious situation any effort which seeks to protect the food supply of our countries should be given high priority and the necessary financial support.

National self-sufficiency in food may be difficult to achieve but total reliance on external sources of supply of the basic food items represents an unsatisfactory state of economic well being.

The success of current efforts in the Caribbean to become more self-sufficient and to provide for an export market in agricultural products will ultimately depend on the application of those technologies which are applicable to the production and marketing of non-traditional agricultural products.

The first question that arises in these efforts is, what technology should we be using? The second question. What does it cost?

When one begins to discuss agricultural technology in relation to the production of crops in the tropics there are several myths which must be overcome.

Myth No. 1

Anyone with a modicum of commonsense can plant a crop and obtain economic returns.

This is a myth and those of you who have been involved in crop production would be aware of the intendable nature of the myth.

Myth No. 2

If it can be grown successfully in Israel or Taiwan or Florida, it can be grown successfully here.

This is a rather common myth and has been proven on several occasions to be erroneous and baseless.

The real underlying thesis which shatters the foundations of these myths is that agricultural technology differs from some other technologies in that the environment i.e. the chemical, the physical and the biological environment, has a profound effect on technological success.

One of the really influential components of the biological environment are pests and diseases and unless and until we are able to successfully manage the pest and disease problems of our crops, we will not be able to produce non-traditional species or any species economically.

I wish, therefore, to congratulate the Plant Pathology Section of the Ministry of Agriculture for the organization of this seminar and to offer our continued support in these endeavours.

I am particularly pleased to see that the private sector is involved in this effort as I hold the view that the way forward is going to be difficult unless all the components of the system are working together harmoniously.

I am also pleased to see that we have a gastroenterologist on the program emphasising, I think, the inter-relationships between plant pathology and human health. I am particularly pleased to see the farmers are participating in this seminar.

I have held the view for sometime now, that the current extension officers cannot effectively transfer agricultural technology to the farmers and that they should be replaced by a group of trained commodity specialists and by increased emphasis on farmer training. In fact I am of the view that, farmer training should be an important, continuous element of the mandate of each and every Ministry of Agriculture, in the region.

The developing countries face a very difficult challenge in their attempts to earn foreign exchange by the export of non-traditional, agricultural products. Not only are the markets demanding quality and standards, but rigid quarantine restrictions may now make it impossible to export to markets where the traditional tariff barriers have been removed.

In the recent past we have had the situation where pumpkins from Jamaica have been refused entry into the U.S. market on grounds of fungal infection; citrus from Jamaica and Dominica have also been refused entry.

These occurrences, in my view, represent the beginning of a new dimension of international trade which if not dealt with will lead to diplomatic and even political difficulties between countries.

At a recent meeting at the Heads of Plant Protection of Countries of the Western

Hemisphere held in Guatemala, the delegate of the United States made it clear that there was going to be an imminent change in U.S. policy with respect to trade in agricultural produce. He pointed out that in the past, the United States accepted agricultural produce from other countries and if on inspection, quarantine pests were found, the shipment was destroyed or rejected. In the new policy, any country wishing to export to the United States must demonstrate by appropriate survey that they are free of quarantine pests of the commodity or that they have in place the quarantine infrastructure to detect and treat for the pests of quarantine importance.

In this new policy, the onus is on the exporting country to establish freedom from quarantine pests. I am of the view that other developed countries may follow the pattern established by the U.S.A. If this is so, then it will be necessary for us to strengthen our quarantine infrastructure, to carry out surveys and conduct relevant research in order to preserve the market which we may establish for agricultural products.

There can be no doubt that plant diseases are major limiting factors in crop production in the tropics and seminars such as this can go a long way in helping us to understand and control these diseases.

I wish you success in your deliberations. ■

First Seminar on the Diagnosis of Plant Pests and Diseases of Food Crops

Held at the U.W.I., St. Augustine

• July 7th - 12th, 1986

On behalf of the Director General of IICA, I am pleased to say that our Institute is proud to be associated with the Faculty of Agriculture of the University of the West Indies and the Ministry of Agriculture, Lands and Food Production in sponsoring this first regional course on the recognition and diagnosis of pests and diseases of food crops in the Caribbean.

Our Institute attaches great importance to collaborative efforts designed to reduce losses from plant pests and diseases in the hemisphere and in 1980 the Institute established a Hemispheric Plant Protection Program to assist member states in attending to the problems of pests and diseases in agriculture.

In accordance with IICA's basic strategy, the program is directed towards strengthening national and regional efforts being carried out by other organizations. It is designed to support, coordinate and collaborate with other international, regional and subregional institutions working in this area and in no case will duplicate or replace existing institutions.

The program recognises that the spread of pests, diseases and weeds that affect basic food and export crops aggravate the food, foreign exchange and energy needs of the Latin American and Caribbean countries. Coordinated International action can contribute to

reducing the spreading and incidence of these pests, weeds and diseases, since the individual capabilities of national plant protection institutions are usually limited by low levels of physical, human and financial resources with which to attain their objectives.

General Objective of the Program

To promote and support efforts of the countries to prevent and reduce crop losses caused by pests, diseases and weeds.

Specific Objectives of the Program

To cooperate with countries in expanding and improving their institutional capability to:

- a. Update and standardize national and international legal provisions and regulations governing plant protection;*
- b. Identify, detect and estimate the damage caused by the main crop pests, diseases and weeds;*
- c. Plan, coordinate and implement programs for reducing the incidence and preventing the spread of the main crop pests, diseases and weeds;*
- d. Plan, coordinate and implement research and technical exchange programs on crop pests, diseases and weeds;*
- e. Generate mechanisms for upgrading the physical, human and financial resources of plant protection institutions, according to the levels of responsibility that have been assigned to them.*

Strategy of the Program

To promote and support:

- a. The updating and standardization of national international legal provisions and regulations governing plant protection (quarantine and pesticides);***
- b. The formulation, implementation and evaluation of multinational projects that involve economically important pests and diseases of mutual interest to several countries;***
- c. The formulation, implementation and evaluation of high-priority projects at the national level;***
- d. The use of technical and human resources from other IICA programs, from CATIE, and from national and international institutions with experience in this field;***
- e. The operational and technical reinforcement of national and international institutions working in this field (OIRSA, FAO, CIP, NAPPO, CIAT, CIMMYT);***
- f. Coordination with other international agencies;***
- g. The organization and promotion of meetings, seminars and other events for consultation and orientation to establish working guidelines and priorities for action;***
- h. The organization of scientific associations for plant protection, that can provide a forum for studying plant health problems in the countries, the subregions and the hemisphere.***

- i. *The participation of farmers' organizations, field workers and rural population in campaigns to control pests and diseases, as well as in quarantine measures.*

The Heads of Plant Protection of IICA Member States in the Caribbean met in San José, Costa Rica from the 15th - 17th August, 1979, and again from July 27th - 29th, 1980 in Barbados. The objectives of these meetings were to formulate a plan of action for the Caribbean within the Hemispheric Plant Protection Program.

The Meeting in Barbados had as its objectives:

1. *To analyse the program objective to make them more precise, more limited in scope and more realistic in relation to the financial resources of IICA;*
2. *To establish lines of priority from among the various proposals made at the meeting in Costa Rica;*
3. *To establish mechanisms for coordination with Regional and International Plant Protection Organizations.*

The result of this meeting formed the basis for the orientation of the programme at the Regional level. The priorities identified included:

1. *Training courses in Plant Quarantine and General Plant Protection;*
2. *Strengthening post entry Quarantine facilities;*
3. *Control and eradication of new pests and diseases;*
4. *Establishment of a Society for Plant Protection in the Caribbean;*
5. *Establishment of a Regional Newsletter.*

The program recognised the existence of several institutions concerned with plant protection in the Caribbean. These include:

- *The Commonwealth Institute of Biological Control with its track record in the biological control of pests.*
- *The Caribbean Agricultural Research and Development Institute (CARDI) with its work in research and its outreach activities in several of the islands.*
- *The Faculty of Agriculture of the University of the West Indies with its research and teaching capabilities.*
- *Plant Protection divisions of the various Ministries of Agriculture.*

The program, however, recognized that there was no agency that provided a formal mechanism for coordination and cooperation in plant protection and that reciprocal technical cooperation which is so vital in the region because of the lack of plant protection capability in some of the smaller territories and the limited human and financial resources available was not being fostered.

The program also responded to the need for (1) information on pest and disease control, and (2) lack of professional stimulation among professionals in Ministries of Agriculture, lack of access to scientific journals and lack of trained sub-professionals in plant protection and plant quarantine.

This program has, so far, made the following contributions to plant protection in the Caribbean:

1. *Establishment of a Newsletter;*
2. *Training in Plant Quarantine;*
3. *Studies in Plant Quarantine and Pesticides;*
4. *Production of several publications.*

Today we initiate another step by co-sponsoring this training course on diagnosis.

We are firmly convinced that improvement of the human resources of our countries is the surest long term strategy for the improvement of food production, food security and human welfare. We are committed to fostering any effort which will curtail our huge food import bill and save foreign exchange for our countries.

Finally we believe that cooperative efforts such as these courses strengthen the bonds or regionalism and allows us to go forward more aware of each other's problem and united in our common quest to find practical and economic solutions.

The Inter-American Institute for Cooperation on Agriculture (IICA) is grateful for the support, cooperation and spirit of willingness which we have enjoyed in the planning of this course from members of the University Faculty of Agriculture and the Ministry of Agriculture, Lands and Food Production and we look forward to continued cordial relations.

May I take this opportunity to welcome all of you and on behalf of IICA to wish those of you from abroad a pleasant stay in Trinidad and Tobago. I hope that the course which we will present to you will be a stimulating and rewarding experience. ■

Opening Ceremony of the Argentine-Caribbean Seminar on Agricultural/Livestock Development

Held in Port of Spain

• December 8th - 12th, 1986

The Inter-American Institute for Cooperation on Agriculture (IICA) is indeed pleased to be associated with this important seminar which is being inaugurated today in the beautiful city of Port-of-Spain, Trinidad and Tobago.

Our Institute is fully aware of the urgent need to increase agricultural productivity in the Caribbean region. This is the only real means of increasing overall production in the face of a shrinking rural population affected by urbanization, and of maintaining competitiveness on international markets. We attach high priority to technological development, improvement in the public and private systems for technology generation and transfer, and improved systems for the prevention and eradication of animal and plant diseases. These systems must involve the implementation of mechanisms for coordination among countries, that will help them meet the challenges of technological development in the twentieth century. Otherwise, the region is in serious danger of falling behind.

Modernization and increased production efficiency in the agricultural sector can be achieved by increasing the incorporation of appropriate technology so as to maintain the traditional comparative advantages and competitiveness of agricultural production in this region. This process should be extended to all the countries and to the different production

strata in each country in a framework of equitable distribution of benefits and conservation of natural resources.

The development of the agricultural sector as the major source of economic growth, both as a supplier of foodstuffs for domestic consumption and as the major source of foreign exchange, is urgent. This requires the design and implementation of policies that are consistent with overall economic policies and with special reference to the peculiarities of each country. Policies must set strategies for production, marketing and processing that will increase the value of agricultural production, maximize participation and ensure just distribution.

The English Speaking Caribbean region has a history of collaboration in the form of the Caribbean Community, but we are convinced that collaboration between this region, the wider Caribbean and the countries of Latin America, can be mutually beneficial and can contribute to improvement of the agricultural sector of the Hemisphere.

We therefore applaud the initiatives taken by the Government of Argentina in arranging this seminar and we are pleased to cooperate with the United Nations Development Program, the Caribbean countries and all other agencies in these efforts which seek to provide a mechanism for the exchange of technological know-how and experiences between Latin America and the Caribbean.

Our Institute recognizes that the Caribbean region has special characteristics and problems which, because of their historical and political origins are very different from the countries of Latin America, and consequently, we have developed a special strategy for assisting the agricultural sector of this region. We have established close working relationship with the national and regional organisations and have concluded a Memorandum of Understanding with CARICOM. We are currently proposing to implement a junior professional training program where young professionals from the Caribbean can enter the Institute for training and possible absorption on the staff.

The basic elements of this strategy are:

- 1. Support for Regional Integration with emphasis on multinational projects;*
- 2. Mobilising external financial resources;*
- 3. Increased participation of Caribbean professionals in IICA; and*
- 4. Fostering linkages in technology transfer, international trade, language and cultural activities between Latin America and the Caribbean.*

It is therefore within the context of the latter strategy, that we support these initiatives and we hope that this will be the beginning of new relationships and new initiatives in cooperation between Latin America and the Caribbean. ■

The Second Seminar on Agromedical Aspects of Pesticide Management

Held at the Kapok Hotel

• April 28th, 1987

***Mr. Chairman, Honourable Ministers, Distinguished Guests, Ladies and Gentlemen:
The Inter-American Institute for Cooperation on Agriculture is particularly proud to be associated with these initiatives which seek to provide a forum for training in one of the most important issues in environmental health and agriculture in our world today - the question of pesticide management.***

Our Institute attaches great importance to collaborative efforts designed to address this subject as we are fully conscious that the issues involved encompass a wide range of disciplines, institutions and interest groups and that final resolution of the problems associated with pesticide misuse at a national level can only be obtained by the collective energies, the collective will and the collective wisdom of all concerned.

It is with pleasure, therefore, that we welcome this opportunity to stand side by side with our sister institution PAHO/WHO; the University of Miami School of Medicine; with the various units of the Ministry of Health, Welfare and the Status of Women; the Ministry of Food Production, Marine Exploitation, Forestry and the Environment; the Bureau of Standards; National Petroleum Marketing Company; and the Pesticides and Toxic Chemical Control Board in this the Second Seminar on the Agromedical Approach to Pesticide Management.

Our Institute is fully aware of the need for modernization of the agricultural sector as a major source of economic growth, foreign exchange earnings and employment and as a supplier of food for both domestic consumption and for export. We are also aware that this modernization of the sector can only be achieved by the incorporation of appropriate technology so as to maintain the comparative advantages and the competitiveness of agricultural production in the Caribbean. However, the crop production enterprises of the region will not achieve their full potential if our crops and harvested products are not protected from the ravages of pests and diseases. Plant Protection has been given high priority in the new Medium Term Plan for 1987 to 1991 in our Institute.

The success of modern pesticides in controlling pests of crops have led to their widespread use and to the belief that reliance upon them is the only way to effectively keep pest populations below damaging level. This, however, is one of the ecological myths of our time.

Mr. Chairman, it is true to say that pesticides are sophisticated technological agents whose management cannot be entrusted to farmer alone in neither developed and/nor developing countries.

Recognizing the sophistication of the technology and the dangers of pesticides, developed countries have put in place regulatory, research, monitoring or registration procedures and have set up institutions to deal with the pesticide issue. Developing countries on the contrary with limited resources have not been able to put all of these structures in place and consequently we believe that an appropriate policy framework based on sound legislation, appropriate registration procedures and training at all levels must form the basis for the proper use of pesticides in the countries of Latin America and the Caribbean.

We believe that public education represents the single most effective strategy for reducing the tragedies associated with pesticide misuse. We are also convinced that appropriate legislative and registration procedures are vital in the battle against pesticide misuse. In this regard we have initiated in cooperation with the work of the Food and Agriculture Organization of the United Nations, mechanisms for the harmonization of pesticide legislation and pesticide registration in the countries of Latin America and the Caribbean.

The consultations which were held in Mexico, Colombia, Argentina and Trinidad and Tobago had as their objectives:

- 1. To analyse and discuss the basis for harmonizing the requirements for registration of pesticides in different countries.*
- 2. To provide opportunity for governments and industry to discuss the basis for pesticide registration requirements.*
- 3. To guide developing countries in the establishment and administration of legislation designed to control the sale and marketing of pesticides.*
- 4. To stimulate, develop, and adopt guidelines and standards on technical methodology.*
- 5. To develop and publish a glossary of definitions and terms concerning pesticides.*

In order to reconcile the goals of a wholesome environment and the availability to adequate supplies of pesticide-free food for our populations, I think it is absolutely necessary for each country today to have a specific national policy on pesticide use. This policy must address the issues of pest control within the context of a society informed on the hazards of pesticides to man and the environment and their role in food production. The policy must be supported by the necessary mechanisms for:

- 1. The Registration of pesticides for importation into the country.*
- 2. The monitoring of the distribution and disposal of unused pesticides.*
- 3. The development of national training programs on pesticide application and safety.*
- 4. Research on alternative to pesticides in food production.*

It is important to recognize that many potential pests are not damaging because natural factors keep populations below the destructive levels. It is important that these non chemical approaches to pest control be investigated so that they may be incorporated into crop production schemes for the control of pests. The approach in which chemical pesticides and non chemical approaches are used to control pests is called integrated pest management. It is important that this approach be taken in the future in order to reduce the quantity of chemical pesticides that are used and reduce potential contamination of the environment. The increasing cost of pesticides and the contamination of the environment which is caused by their use suggest that research on non chemical methods of pest control should be supported.

It has been verified that only 10 to 20% of powdered insecticides and only 20 to 50% of liquid insecticides reach the foliage surface and less than 10% reach the target organism. There is an obvious need therefore for research in the area of pesticide application in order to reduce the amount of pesticide needed to control a particular disease or pest. Improved application procedures will allow us to reduce our consumption of pesticides considerably with the resulting cost saving and reduced contamination of the environment.

It is important, therefore, in the final analysis that we seek to diagnose and determine carefully the cause of our production problems, so that solutions can be found which are compatible with the environment, with good management and with sound business principles.

The appropriate use of pesticides is also in our long term interest as misuse of pesticides may lead to pest resistance, rise of secondary pests to primary pest status in addition to the health and environmental problems.

It is against this background that these initiatives are important. As we seek to produce adequate supplies of food for our current population, let us at the same time maintain and preserve a wholesome environment so that not only we, but our children may have the benefit of an environment that is free from the dangers and contamination by toxic pesticides.

Our Institute will continue to support any initiative which is designed to improve the management of pesticides in Trinidad and Tobago. ■

The First "Panel Discussion on Policy Options for Tomorrow's Agriculture in Trinidad and Tobago"

Introductory Remarks

Held at the Faculty of Agriculture, U. W. I.

• May 14th, 1987

Honourable Minister, Professor Richards, Members of the Panel, Dr. Gumbs, Distinguished Guests, Ladies and Gentlemen:

First, I would like to thank the organizers of this event for the honour they have bestowed on me and on our Institute by asking me to be moderator of this the first seminar on "Policy Options for Tomorrow's Agriculture in Trinidad and Tobago."

Secondly, I would like to congratulate The University of the West Indies, Faculty of Agriculture for their initiative and foresight in organizing this forum to address this very important topic; and thirdly, I would like to thank you the audience for being here in your numbers.

The economy of Trinidad and Tobago has always been less dependent on agriculture as a contributor to GDP than the economies of other countries in the Caribbean. This is due largely to the availability of petroleum resources. Thus, the rapid increases in international oil prices beginning in the mid-1970s brought the country an unprecedented rate of growth, with significant expansion of social and physical infrastructure including health, education, water, electricity, transportation, communication and housing.

The sudden influx of capital, accompanied by a rapid process of economic diversification, had both positive and negative repercussions on the agricultural sector. As opportunities opened elsewhere in the economy, resources (including capital, arable land and productive labour) were diverted away from the sector. The demonstration effects of urbanization and industrialization reinforced existing negative attitudes towards agriculture and encouraged the adoption of urban values and tastes. The gross domestic product of agriculture clearly reflected these changes, as it declined from TT\$98.5 million in 1976 to TT\$79.6 million in 1981. At the same time, the food import bill showed a dramatic increase from TT\$250.3 million in 1975 to TT\$904.6 million in 1982, and by 1984 this had increased to nearly one billion dollars (TT).

The unexpected and sudden drop in international oil prices in 1982 ushered in a period of social and economic reversals in the Trinidad and Tobago economy, as was the case in most other petroleum dependent countries. While the impact on export agriculture was particularly severe, there were encouraging signs that the earlier decline in domestic agricultural production had been arrested, if not reversed. Even in the case of sugar, the government had already taken decisions and embarked on programs to restrict sugar production and use marginal sugar cane lands for other commercial crops.

During the decade of the "oil boom", the government had reinvested substantial sums of its petroleum earnings into agriculture in the form of physical rural infrastructure, subsidies to producers and consumers, institutional strengthening, training and research. These investments came to fruition in the period following the "oil boom", as physical and human capital were already in place to provide a stimulus and base for agricultural production and expansion. Increases were made immediately in some areas of domestic food production, but this, in turn, revealed weaknesses in domestic marketing arrangements.

The government also focused renewed attention on programs for crop diversification, including the rehabilitation of traditional tree crops such as cocoa, coffee and citrus. The high cost and scarcity of agricultural labour, which had become very pronounced during the preceding decade, emerged as a major problem area requiring special measures. The

new government is now exploring new production systems and technology that will solve these problems.

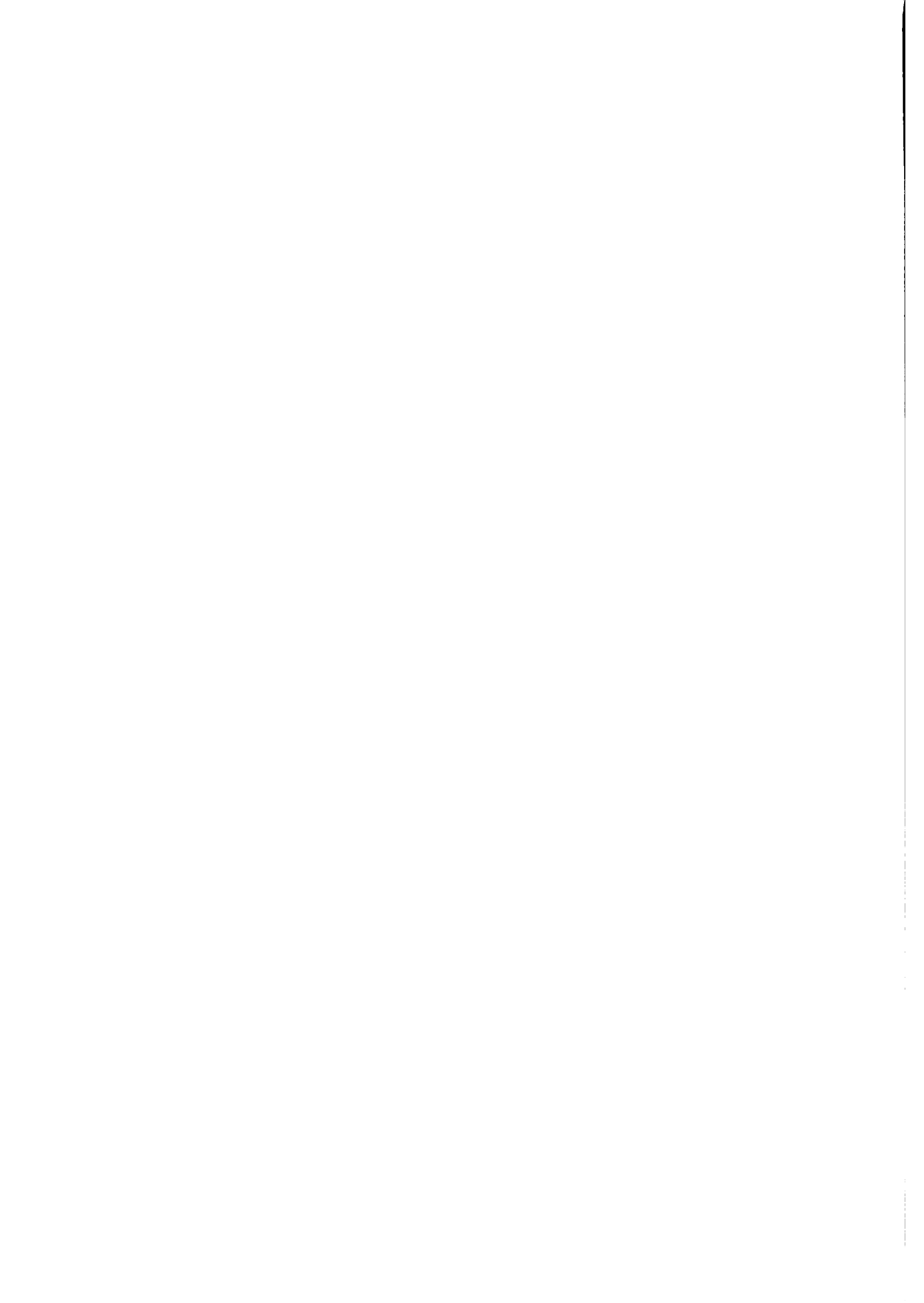
Our Institute is fully convinced that modernization of the agricultural sector in the countries of Latin America and the Caribbean holds the key to revitalization of the economies of our countries and for creating conditions favourable for sustained growth. There are two reasons for this: first, the natural resources for agricultural development are abundant in our countries (land, water, and experienced people); and secondly, the capital investment needs for agricultural production per unit of output are less than for that required by other sectors of the economy especially industry. But modernization of the sector will require the design and implementation of clear policies which allows for the incorporation of new technology into agricultural enterprises and the formulation of policies which are concrete, implementable, and have the potential for stimulating producers to invest their time and financial resources into agricultural enterprises for enhancing development. Policy formulation in the agricultural sector is particularly critical for agricultural development for two reasons: (1) the long gestation period of most projects, (2) the high risk involved in production.

Therefore effective policy guidelines are necessary in order to influence the extent to which investments will find their way into the sector in competition with other sectors of the economy.

Moreover, the plans and policies for the sectors must be related to the plans and policies for the economy. It is against this background therefore that this forum is important, significant and timely.

In recognition of the important role which agricultural policy must play in the revitalization of the sector, our Institute has established as one of its five priority areas for the 1987-1991 period a program in Agricultural Policy Analysis and Planning.

This initiative is therefore important, for the policies which are devised today will have repercussions for the entire economy for the rest of this century and in the 21st century. ■



The Opening of the First National Course on Post-Harvest Technology

Held at the Central Market, Beetham Highway, Port-of-Spain

• July 13th, 1987

The Inter-American Institute for Cooperation on Agriculture (IICA) is pleased to support in cooperation with CARIRI and the Ministry of Food Production, Marine Exploitation, Forestry and the Environment this initiative which seeks to assist in reducing postharvest losses, increasing shelf-life and increasing the quality of local food.

It seems to me that in our efforts to encourage the consumer to use more local food not only must the price be competitive but the quality must be high. High quality Agricultural Produce can only be ensured by careful attention to procedures and methods which consider agricultural produce as living, highly perishable commodities and which seek to reduce the damage caused during and after harvest.

Our Institute is acutely aware of the need for the effective application of postharvest technology in food marketing and has set out as one of its programs in the current Medium Term Plan, a program in agricultural marketing and agroindustry.

This program recognises that the inadequate infrastructure for handling, storage, preservation and agroindustrial processing of foodstuffs and raw materials has a negative impact on food security and on providing producers with a margin of profit, and

consumers with acceptable price levels.

The program will assist in the identification of marketing problems and the development of solutions. Specifically the program aims to:

- 1. Analyse with the countries the inherent problems of the marketing process, identify and analyse policies and projects that will help solve problems.*
- 2. Train the technical staff of national institution in organization of marketing, use and dissemination of information, and preparation of marketing projects.*
- 3. Support national institutions in deciding what types of economic, regulatory and legal information should be compiled and published rapidly so they will serve as useful tools for decision making on production plans and domestic and international marketing.*
- 4. Support the countries in creating systems for the generation and dissemination of information and for education in the use of information to support decisions on marketing and on entering international trade.*

The program will work in the countries to promote strategies and policies for bringing industry into rural areas and increasing the rural added value of production. This will recast the relations between industry and agriculture, and emphasis will be placed on processing agricultural goods. The following actions will be carried out:

- 1. Support the countries in setting up organizations to promote small and medium sized enterprises that will develop agroindustry, domestic marketing of agricultural products and inputs and export;*
- 2. Promote and support the countries' efforts to develop institutional capabilities for training in the preparation of agro-industry projects.*

Improvement in food self-sufficiency and food security in Trinidad and Tobago will

depend to some extent on improvements in the marketing system for food crops. In 1985, the Government of Trinidad and Tobago requested IICA's assistance in the preparation of project proposals for establishment of a marketing system for food crops which would embrace aspects of packaging, handling and postharvest technology.

A mission visited Trinidad and Tobago from August 25th to 31st, 1985 and prepared "Proposals for the Improvement of Domestic Marketing of Fruits and Vegetables in Trinidad and Tobago."

On the subject of Research and Training the mission observed that "a national course in postharvest technology and marketing seems necessary."

In pursuing the implementation of the proposed national course in postharvest technology, it became clear that local materials for use in postharvest training were extremely limited. In view of this, IICA sought to assist in the preparation of local training material for use in a national course in postharvest technology and marketing, and has cooperated with both CARIRI and the Post Harvest Unit of the Ministry of Food Production, Marine Exploitation, Forestry and the Environment in the preparation of suitable materials for this course.

I am therefore pleased that we are initiating this course today and I pledge the continued assistance of our Institute in supporting similar future initiatives in Trinidad and Tobago. ■

The Opening of the National Course on Post Harvest Technology

Held at CARIRI

• July 21st, 1987

Mr. Chairman, Distinguished Guests, Ladies and Gentlemen:

On behalf of IICA, I am very pleased to be here and to have been asked to say a few words on the occasion of the launching of the second part of this National Training Course on Postharvest Technology. About a year ago, I attended a seminar entitled "The Key to Profits After Harvest" which was organized and run by CARIRI and I was particularly impressed by the title and content of the seminar because I thought that for the first time an institution of research and development was concerning itself with the practical aspects of postharvest technology and with the bottom-line profits. So often in our research institutions, we have a tendency to develop recommendations without consideration for the cost of implementation of the recommendations and when these recommendations are not adopted by the farmer or the entrepreneur we express dismay. In my own experience, I have seen recommendations for disease control in which the cost of the pesticide and its application is more than can be expected from the sale of the increase in yield of produce. I make this observation to make the point that unless and until we seek to incorporate into our studies the concept of profitability we cannot expect that recommendations will be adopted by our clients.

I would like to congratulate CARIRI and the Ministry of Food Production, Marine

Exploitation, Forestry and the Environment for cooperating with us in mounting this course and I feel certain that if we continue to focus on the meaningful, practical and profitable aspects of postharvest technology, then we will see meaningful adoption of the methods which we recommend for reducing food losses from postharvest problems in Trinidad and Tobago.

*After the seminar, to which I referred above, we held discussions with CARIRI to determine how we may assist in future courses. It became clear that lack of local training materials on postharvest losses was needed. We signed a cooperation agreement with the Institute and I am pleased to report that in accordance with the terms of the agreement, the Institute has produced an impressive manual entitled *Postharvest Handling of Tropical Perishables - A training guide*. I am aware that you are the guinea pigs in that the materials will be used in this course for the first time. I think you should however, take this fact as an honour and an opportunity, for you will have the distinct privilege of making suggestions which could contribute to the improvement of the information.*

Our Institute has identified postharvest technology, marketing and agroindustry as areas of high priority in the 1987-1991 Medium Term Plan and I assure you that we will seek to support any initiative which is designed to reduce postharvest losses in Trinidad and Tobago.

Let me wish you the very best in your course and I hope that you will leave these walls more conscious of the need for good postharvest management and ready to implement practical solutions to reduce food losses in Trinidad and Tobago. ■

A Meeting on the Development of a Policy on Pesticide Use in Jamaica

• *August, 1987*

Distinguish Representatives, Ladies and Gentlemen. Let me first say how very pleased I am to be back in your beautiful country. I am aware of your seminar on "Pesticides and Food" which was held in 1986 under the auspices of the National Food and Nutrition Coordinating Committee with support from the Caribbean Food and Nutrition Institute and PAHO. This seminar generated considerable discussion and some excellent papers on the status of pesticide use in Jamaica.

The per capita use of pesticides in Jamaica is about 3.8 kg. per person, making this country second to Barbados in pesticide usage in the Caribbean. The problems of pesticide use in an island environment have been adequately documented by Mansingh and his colleagues at U.W.I.

These Include:

- (1) the tropical environment requires more concentrated efforts in plant protection than in plant production per se;*

- (2) *the pest control or management strategies have been developed mainly for continental application, and have been pushed, often without the needed modification, into the island ecosystems;*
- (3) *the island ecosystems are much more fragile than those of continental land masses;*
- (4) *the unique socio-economic and agricultural practices exist in the Caribbean where about 80-90% of the farmers have small holdings in which multiple crops are grown;*
- (5) *the usually windy conditions in the islands encourage drift of pesticides away from targets, particularly in small holdings, in amounts much more than in large farms and large land masses;*
- (6) *the peculiar rainfall patterns in the islands of the region wash off a lot of pesticides from the target often soon after application and before the chemicals have a chance to penetrate fully into the tissues;*
- (7) *the characteristic hilly terrains of the Caribbean islands favour drift of pesticides during spraying due to local wind currents, and run-off of pesticides in rain water;*
- (8) *the limestone formations in many areas favour percolation and vertical run-off of pesticide residues through cracks and crevices and into the underground water resources;*
- (9) *the dwellings, fresh water ponds and rivers, wild-life, "sanctuaries and refuges" etc., particularly for the birds are usually in the vicinity of farms and areas of pesticide applications;*
- (10) *the safer areas for the wild-life in the islands to migrate to, whenever their*

habitat is endangered by pesticide drifts or run-offs, are non-existent.

The fact that the residues of persistent insecticides are present in soil and water throughout Jamaica suggests the need for action and cooperation by all agencies concerned.

Many recommendations emanating from the conference identified training as an important need in the context of the future management of pesticides. There is clearly, therefore, a need to work out a national policy document with clear objectives and implementable strategies to address the pesticide situation in Jamaica. It is hoped that such a policy statement would identify projects for implementation which could then be funded by national or international bodies all designed to reduce the misuse of pesticides.

In our experience, we have found that the pesticide problem can only be satisfactorily addressed by the cooperation between the private sector and the Ministries of Health and the Ministries of Agriculture and consequently our approach is to seek to find an effective mechanism to provide for an atmosphere of mutual cooperation between these entities within the context of a National Policy on Pesticides. Such a policy is needed in all of the Caribbean islands.

A National Policy on Pesticides should have four aspects:

- 1. Policy on Registration of Pesticides.*
- 2. Policy on Pesticide use.*
- 3. Policy on Pesticide disposal.*
- 4. Policy on manufacture, labelling and distribution*

1. Policy on pesticide registration

- (a) Pesticide Registration Process.*
- (b) Board for Pesticide Registration*
- (c) Legal Provisions*
- (d) Regulations and Guidelines*

2. Policy on pesticide use

- (a) The distributors*
- (b) The farmers*
- (c) Household*
- (d) Need for training*
- (e) Treatment of accidental exposure. Medical aspects*
- (f) Research and environmental monitoring*
- (g) Pesticide inspectors*

3. Policy on pesticide disposal

- (a) Disposal sites*
- (b) Methods of disposal*
- (c) Relevant agencies*

4. Policy on pesticide, labelling and distribution

- (1) Safety standards in the manufacture of pesticides*
- (2) Standards of efficacy*
- (3) Standards for labelling*
- (4) Standards and conditions for distribution and storage*

I hope that our discussions today will set the stage for the development of such a policy for Jamaica. ■

Seminar on the Diagnosis of Plant Pests and Diseases of Food Crops

Held at The University of the West Indies, St. Augustine

• September 1st - 12th, 1987

Mr. Chairman, Acting Minister, Distinguished Guests, Ladies and Gentlemen.

On behalf of the Director General of IICA, I am pleased to say that our Institute is proud to be associated with the Faculty of Agriculture of the University of the West Indies and the Ministry of Food Production, Marine Exploitation, Forestry and the Environment in sponsoring this national course on "The Recognition and Diagnosis of Pests and Diseases of Food Crops in Trinidad and Tobago."

Our Institute attaches great importance to collaborative efforts designed to reduce losses from plant diseases in the hemisphere and in 1980 the Institute established a hemispheric Plant Protection Program to assist member states in attending to the problems of pest and disease in agriculture.

In accordance with IICA's basic strategy, the program is directed towards strengthening national and regional efforts being carried out by other organizations. It is designed to support, coordinate and collaborate with other international, regional and subregional institutions working in this area and in no case will duplicate or replace existing institutions.

The program recognises that the spread of pests, diseases and weeds that affect basic food

and export crops aggravate the food, foreign exchange and energy needs of Latin American and Caribbean countries. Coordinated international action can contribute to reducing the spreading and incidence of these pests, weeds and diseases, since the individual capabilities of national plant protection institutions are usually limited by low levels of physical, human and financial resources to attain their objectives.

In a recent review of the program for the 1987 - 1991 period four objectives have been defined, these are:

- 1. Strengthening institutional structures for plant protection.*
- 2. Economic evaluation of pest and disease losses.*
- 3. Advisory assistance to control pests and diseases where these represent barriers to international trade.*
- 4. Strengthening emergency systems in response to outbreaks of pests and diseases.*

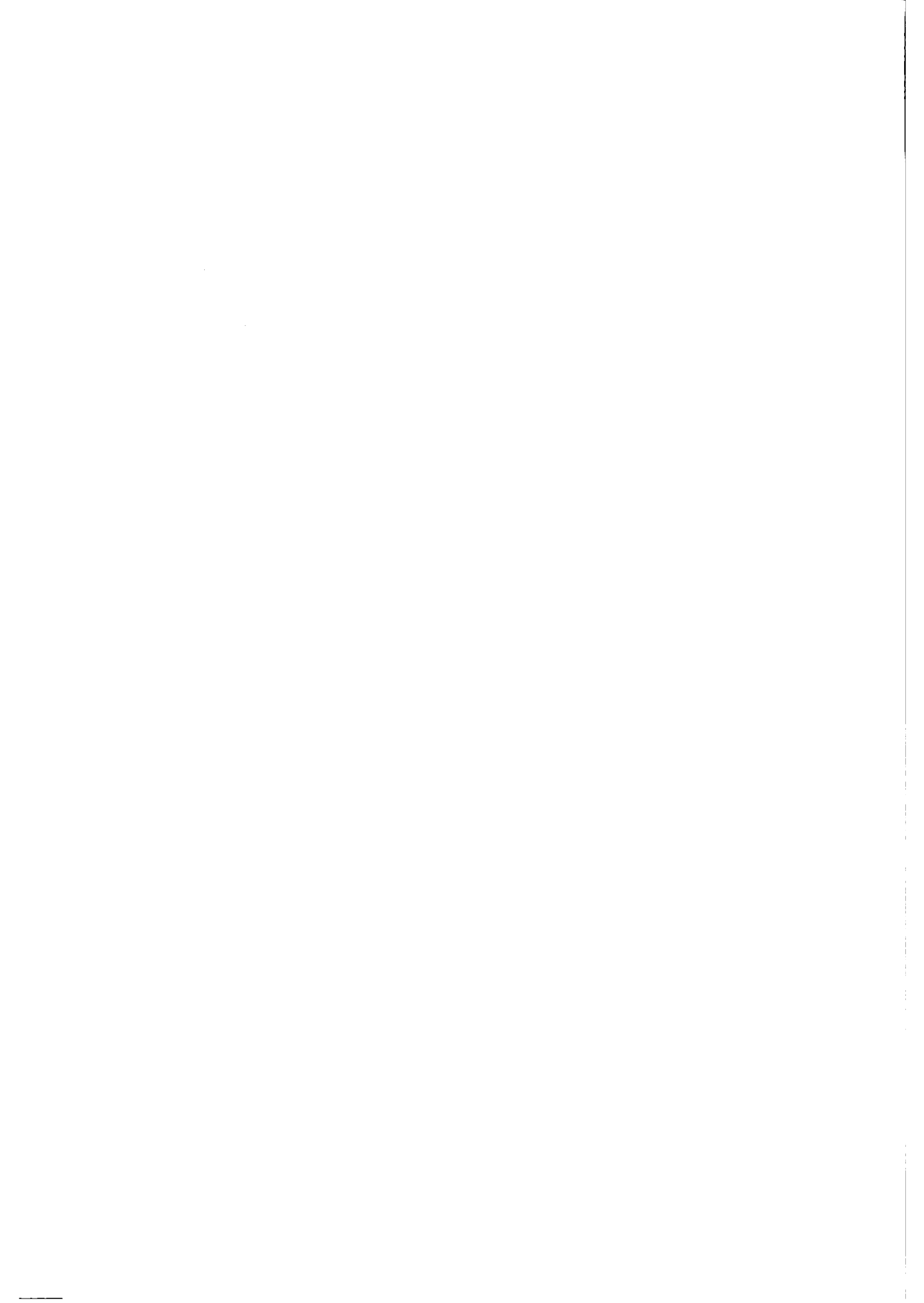
Within the context of these objectives the program will continue to assist in training human resources involved in the implementation of plant protection programs and will seek to bring to the countries the latest development in pest control especially as these relate to the use of low-cost, environmentally sound strategies for pest and disease control.

We are firmly convinced that improvement of the human resources of our countries is the surest long term strategy for the improvement of food production, food security and human welfare. We are committed to fostering any effort which will curtail our huge food import bill and save foreign exchange for our countries.

Finally, we believe that cooperative efforts such as these courses strengthen the bonds of institutional cooperation and allow us to go forward more aware of each other's problems and united in our common quest to find practical and economic solutions.

The Inter-American Institute for Cooperation on Agriculture (IICA) is grateful for the support, cooperation and spirit of willingness which we have enjoyed in the planning of this course from members of the University Faculty of Agriculture and the Ministry of Food Production, Marine Exploitation, Forestry and the Environment and we look forward to continued cordial relations.

May I take this opportunity to welcome all of you and I hope that the course which we will present to you will be a stimulating and rewarding experience. ■



The Opening of the Training Course on Small Agribusiness Management

Held at the Kapok Hotel

• *October 13th, 1987*

Mr. Chairman, Honourable Minister, Distinguished Guests, Ladies and Gentlemen: on behalf of the Inter-American Institute for Cooperation on Agriculture (IICA), I would wish to extend a warm welcome to all of you, especially our visitors from abroad. I am pleased to say that our Institute is proud to be associated with the Ministry of Food Production, Marine Exploitation, Forestry and the Environment in sponsoring this training course on the promotion and management of small agribusiness enterprises. It is now recognised that (1) even in industrialised economies, the small-scale-enterprise sector employs between one-fifth and one-third of the working population, (2) several of today's large industries were once small enterprises. It is not surprising, therefore, that during the last decade or so, several governments in developing countries have been turning their attention to small scale enterprises as an important contributor to employment creation, gross domestic product, foreign exchange savings and the equitable economic development.

Other countries of this Hemisphere have made considerable progress in the development of the small business sectors and these now make a substantial contribution to their economies, e.g. Dominican Republic, Jamaica, Honduras and Colombia.

Our Institute is firmly of the view that modernization of the agricultural sector holds the

key to economic and social recovery and stability in the countries of our Hemisphere. We believe that this modernized agriculture is characterised by an abandonment of the idea that agriculture and industry are separate and distinct entities; rather we believe that the promotion and the development of the new agroindustrial sector will see the linking of primary production and processing for both local production and export. This new role for agriculture will require the incorporation of technology into production and processing of food but more than that it will require that agriculture and agriculturists see themselves as businessmen applying the techniques of modern management for decision making to the production processes of the sector.

The agriculture of which we speak is one where the sector ceases to be a way of life and becomes a dynamic part of the national economy oriented to the production of food, goods and services for developing economies.

The new agriculture is characterised by the utilization and processing of local raw materials rather than by the export of primary raw materials and primary products at low prices and the import of highly processed food at high prices. When one speaks of small agribusinesses, cottage industries or rural agro-industry today, the listener immediately conjures in his mind jellies and jams in abundance, but there is more to small scale industry than jellies and jams. What is done with the skins of the large number of sheep, goat and cattle which are slaughtered for meat in Trinidad and Tobago? Couldn't these skins be used to produce leather which may be converted into purses, bags and wallets with the map of Trinidad and Tobago on them for sale in the proposed expanded tourist industry? Have we exploited the timber, clays, bamboo, straws and other natural materials for the production of souvenirs, household utensils, furniture and toys? Is there not room for the development of local machinery and equipment, irrigation systems, maintenance services, financial services, marketing facilities and services, packaging and grading services, processing of local fruit and vegetables, production of mushrooms, cordials, liqueurs, shoes, purses, etc. from local ingredients?

In the context of the 1987-1991 Medium Term Plan of the Institute, a program on Organization and Management for Rural Development has been approved by the Member

States. This program recognises that managerial skills for production and management of agribusiness enterprises are lacking in the rural sectors of Latin America and the Caribbean. The program will therefore concentrate a substantial portion of its human and financial resources in providing technical support and training to strengthen the managerial skills of people responsible for the development and implementation of rural development programs and projects.

We are conscious that an improved agricultural sector and self reliant development can be successful if the human resources are trained for the improved management of local enterprises. It also depends, of course, on the availability of credit and financial facilities and technical support. In this regard, it is important that traditional financial institutions support such initiatives and it may be necessary to create new institutions such as community revolving funds to assist small agribusiness.

It is also important for institutions of research and development to identify with such initiatives as a source of technical support.

While it is true that during this exercise the focus will be on small agribusiness, I wish to point out that the methodologies are applicable to micro-enterprises in any sector of the economy.

We believe that the initiative which we inaugurate today will provide a mechanism to foster a spirit of entrepreneurship and enterprise founded on the principles of community participation and cooperation supported by the services of the state and based on the utilization of local raw materials for provision of new goods and services for this society.

It is in this context therefore, that we are pleased to be here today to initiate with the Ministry of Food Production, Marine Exploitation, Forestry and the Environment this training program on the development and management of small agribusiness in Trinidad and Tobago. We believe that this is but the beginning of a long and productive relationship and we look forward to playing our part on the platform of reconstruction of the economy in the new Trinidad and Tobago. ■



A Meeting of the Heads of Pesticide Registration Boards in the Windward Islands

Held in Castries, St. Lucia

• *October 23rd, 1987*

Mr. Chairman, Distinguished Guests, Ladies and Gentlemen.

Let me first say how pleased I am to be back in your beautiful country and to take the opportunity to meet old friends and acquaintances. Let me also say that I am pleased to have to share with you my concern for the consequences of our continued laissez-faire approach to pesticide use in the Caribbean.

The per capita use of pesticides in our island nations is increasing rapidly. Pollard reports that, "In the Caribbean region there also appears to be a similarly increasing trend in pesticide usage. Actual usage data for the region as a whole however are not very easily available, though some indication of the amounts of pesticides (exclusive of rodenticides) imported into Jamaica, Barbados, Trinidad and Tobago and Guyana for the period 1972-1977 has been presented (Pollard, 1980). For this same period mean annual importation of pesticides amounted to 774,710 kg in Trinidad and Tobago while for 1980 1.8 x 10⁶ kg were imported at a cost of TT\$20.0 million (US\$8.3 million). For the period 1979-1981 St. Vincent and the Grenadines imported annually 349,082 kg at a mean value of EC\$1,725,683 (US\$718,600) (S. Lynch, pers. comm.); while similar data for Grenada for 1982 show a pesticide import bill of EC\$842,369 (US\$314,320) for 139,901 kg." These data, though only fragmentary, do indicate nonetheless that usage of pesticides in the region is quite substantial.

The problems of pesticide use in an island environment have been adequately documented by Mansingh and his colleagues at U.W.I.

These include:

- (1) the tropical environment requires more concentrated efforts in plant protection than in plant production per se;*
- (2) the pest control or management strategies have been developed mainly for continental application, and have been pushed, often without the needed modification, into the island ecosystems;*
- (3) the island ecosystems are much more fragile than those of continental land masses;*
- (4) the unique socio-economic and agricultural practices exist in the Caribbean where about 80-90% of the farmers have small holdings in which multiple crops are grown;*
- (5) the usually windy conditions in the islands encourage drift of pesticides away from targets, particularly in small holdings, in amounts much more than in large farms and large land masses;*
- (6) the peculiar rainfall patterns in the islands of the region wash off a lot of pesticides from the target often soon after application and before the chemicals have a chance to penetrate fully into the tissues;*
- (7) the characteristic hilly terrains of the Caribbean islands favour drift of pesticides during spraying due to local wind currents, and run-off of pesticides in rain water;*
- (8) the limestone formations in many areas favour percolation and vertical run-*

off of pesticide residues through cracks and crevices and into the underground water resources;

(9) the dwellings, fresh water ponds and rivers, wild-life, "sanctuaries and refuges" etc. particularly for the birds are usually in the vicinity of farms and areas of pesticide applications;

(10) the safer areas for the wild-life in the islands to migrate to, whenever their habitat is endangered by pesticide drifts or run-offs, are non-existent.

(11) many of the major users of pesticides cannot read the conventional labels.

These concerns led us to propose in 1983, that a regional consultation on pesticide should be held. The consultation arose also out of the need to present a common approach to pesticide use within the context of dealing with the multinationals and importers.

In our experience, we have found that the pesticide problem can only be satisfactorily addressed by the cooperation between the Ministries of Health and, the Ministries of Agriculture and the private sector. Consequently our approach is to seek to find an effective mechanism to provide for an atmosphere of mutual cooperation between these entities within the context of a National Policy on pesticides. Such a policy is needed in all the Caribbean islands.

A National Policy on Pesticides should have four aspects:

- 1. Policy on Registration of Pesticides.***
- 2. Policy on Pesticide Use.***
- 3. Policy on Pesticide Disposal.***
- 4. Policy on Manufacture, Labelling and Distribution.***

1. Policy on Pesticide Registration:

- (a) *Pesticide Registration Process.*
- (b) *Board for Pesticide Registration.*
- (c) *Legal Provisions.*
- (d) *Regulations and Guidelines*

2. Policy on Pesticide Use:

- (a) *The distributors*
- (b) *The farmers*
- (c) *Household*
- (d) *Need for training*
- (e) *Treatment of accidental exposure. Medical aspects.*
- (f) *Research and environmental monitoring*
- (g) *Pesticide Inspectors*

3. Policy on Pesticide Disposal:

- (a) *Disposal sites*
- (b) *Methods of disposal*
- (c) *Relevant agencies*

4. Policy on Pesticide Manufacture, Labelling and Distribution

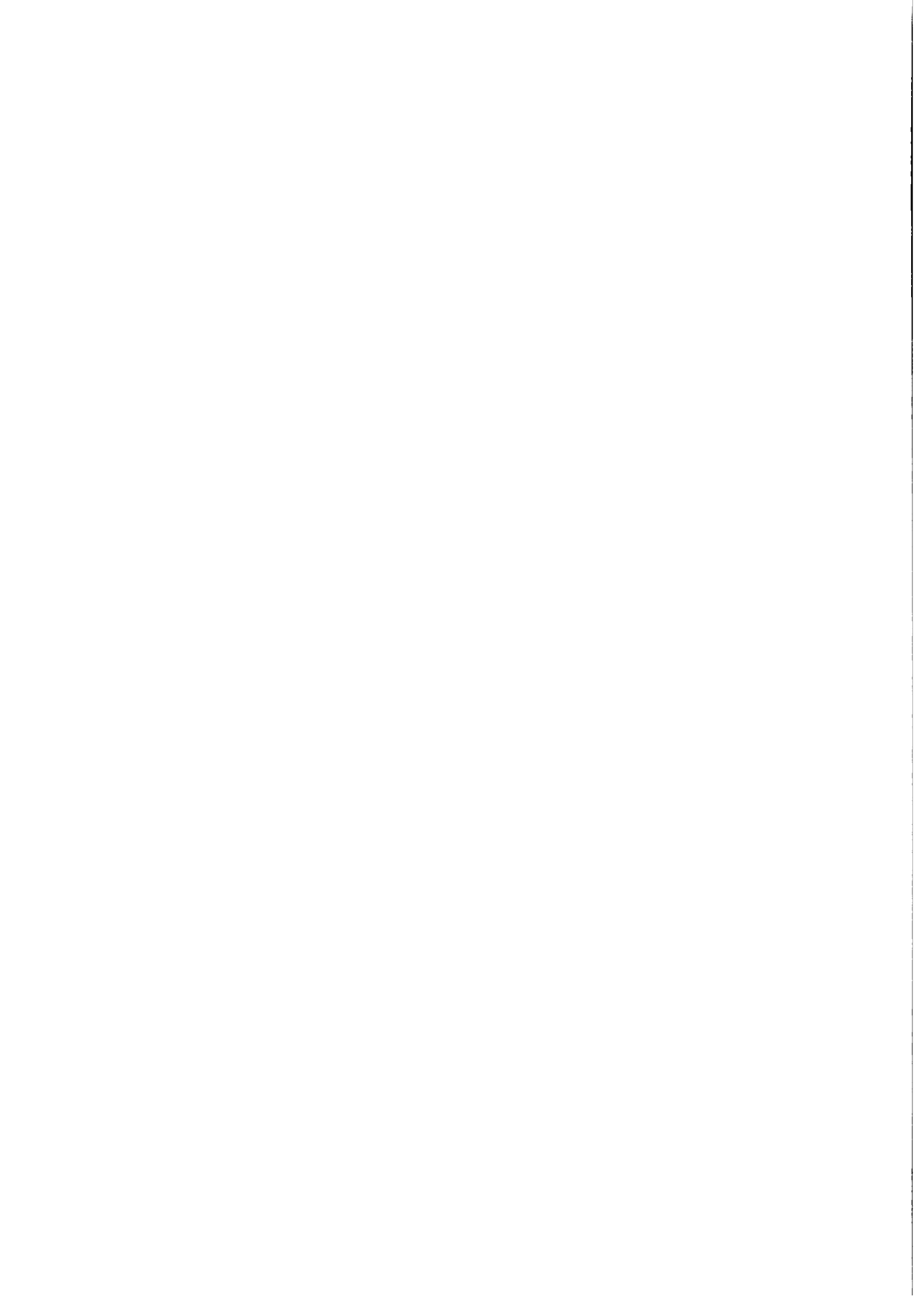
- (a) *Safety standard in the manufacture of pesticides.*
- (b) *Standards of efficacy.*
- (c) *Standards for labelling.*
- (d) *Standards and conditions for distribution and storage.*

A Policy on Pesticide Registration. The basic elements of such a policy are set out in the document on Pesticide Legislation and the Registration process in the Caribbean:

Registration

1. *To accept the Certificate of Origin or its equivalent, issued by the basic manufacturer;*
2. *Recommend that the countries consider the convenience of the validity of registration of a product up to a maximum of 3 years, starting from the day the registration is granted;*
3. *That the analytical samples be supplied by the Registrant whenever it is required by the Government or duly appointed national authority;*
4. *That no product should be accepted for registration without the accompanying toxicological data;*
5. *Accept that the pre-harvest interval be proposed by the registrant company, for approval by the Government registration authorities;*
6. *To request the local importer of a formulated or technical product to present a certificate issued by the basic producer in which it is stated that the product being imported corresponds in quality and characteristics to that already registered in the country.*

I look forward to working with you to support any initiative which will seek to reduce the misuse of pesticides in the Eastern Caribbean. ■



Opening of the Round Table on Agricultural Marketing in Trinidad and Tobago

Introductory Remarks

Held at the Hilton Hotel

• December 7th - 9th, 1987

Mr. Chairman, Honourable Minister, Distinguished Guests, Ladies and Gentlemen.

The Inter-American Institute for cooperation on Agriculture, (IICA) is pleased to support in cooperation with the Central Marketing Agency (CMA) and the Ministry of Food Production, Marine Exploitation, Forestry and the Environment this initiative which seeks to develop new strategic directions for Agricultural Marketing in Trinidad and Tobago.

Our Institute is acutely aware of the need for effective food marketing systems in Latin America and the Caribbean and has set out as one of its programmes in the current Medium Term Plan, a program in Agricultural Marketing and Agroindustry.

The Marketing and Agroindustry Program is based on two fundamental characteristics of the present situation in the countries of Latin America and the Caribbean. The first is the growing complexity of marketing systems and the greater needs for processed foods, both of which derive from urbanization trends and the resulting functional, spatial and temporal lags between production and consumption.

The second feature is the newly emerging importance of international agricultural trade in general, and particularly of nontraditional products, which has arisen in response to

needs for growth in the economies of the region. In recent years, extensive opportunities have begun to open in the international and intraregional markets. However, these opportunities can be tapped only if physical and institutional infrastructure is available. This is not presently the case in all countries.

The purpose of the Marketing and Agroindustry Program in this framework is to support the countries in their efforts to increase the efficiency of their marketing processes. The program will also work to improve the effective participation of agricultural producers in international, bilateral and multilateral trade in the region and the world. This will be done by improving the design of information channels and systems, increasing investments in rural agroindustry and promoting non traditional agricultural export.

Problems

Growing urbanization and the resulting need to move greater volumes of products between the field and the city and within the cities require effective strategies, organization and investments so that agricultural products will reach consumers quickly and in good condition.

This has always been, and continues to be, the most serious problem. It inhibits domestic marketing development and depresses farmer income. Many national efforts and international technical cooperation projects have been focused on comprehensive solutions to this problem.

Recently, however, the growing importance of intraregional and international trade has added a new dimension to the problems that need to be solved if the agricultural sector is to make its full contribution to economic and social development in the region. Related issues are the technology available for processing and handling products, forms of organization for obtaining market entry, access to appropriate information, and management of external marketing processes.

The following concerns are of particular importance in the context of these general problems:

Inadequate Information

Strategies adopted by the countries to solve marketing problems have almost always assigned a dominant role to the government, ranging from setting standards and regulations to actually participating in product and input handling for domestic and international markets. The government, in order to play this role, has invested in infrastructure which was then managed by different public sector organizations. However, this physical infrastructure has not always been supported with the development of national information systems linked to international systems.

Consequently appropriate data are not available to support decision making on production (such as planning crops for domestic and external markets); sales through assessable markets; opportunities to enter external markets; quality standards and packaging regulations; support prices; international trade, trade legislation; etc. Market effectiveness is limited by organizational constraints, the lack of clear priorities for collecting and sorting data, inadequate analysis of data for generating useful reports, and an overall lack of strategies for timely dissemination of information, although the media for this purpose are generally available.

Insufficient Development of Infrastructure for Rural Agroindustry

The government cannot work alone. Private sector projects need to be developed in rural areas, using a participatory organizational structure to combine producers and other agents and an effective operating strategy for investment in rural infrastructure for post harvest management of products and for processing farm goods. It seems paradoxical that most agroindustry is located in urban areas. This makes it impossible to give added value to agricultural production at the point of origin and increases problems of rural poverty and rural to urban migration. The situation is heightened by agricultural finance policies which are increasingly oriented toward working capital loans, and by industrial

financing policies that concentrate on urban centers.

Insufficient Private Sector Participation in Developing International Markets

Intraregional trade has been welcomed as an important channel for Latin American integration. It is not yet strong, but various institutions provide lasting support to the countries' efforts in this direction. In the context of international trade, international organizations are constantly working to improve the relations among countries through agreements and policies for international trade and for renewing the flow of financial resources toward production and trade projects.

More is needed, however, if the countries of the region are to participate actively in international trade to generate foreign exchange and reactivate their economies. The public sector needs to play a more active role in promoting private sector initiatives through legislation and projects that encourage investments in joint ventures.

Latin American cooperation also provides a framework for sharing information on health standards, quality control regulations and legal restrictions that need to be respected by countries participating in trade. Such legislation should be subject to continuous analysis and review in all countries to prevent it from acting as a barrier to trade.

Improvement in food self-sufficiency and food security in Trinidad and Tobago will depend to some extent on improvements in the marketing system for food crops.

A mission visited Trinidad and Tobago from August 25th to 31st, 1985, and prepared "Proposals for the improvement of domestic marketing of fruits and vegetables in Trinidad and Tobago."

We are pleased that the current initiative seeks to give effect to some of the recommendations of the study particularly the establishment of a market information system, the rationalisation of institutional and marketing infrastructure and training in marketing and postharvest technology.

We are pleased that our Institute has found it possible to provide the services of Dr. Rafael Salazar for a two year period in the first instance to assist the Government of Trinidad and Tobago in this important area of work.

I should also like to acknowledge the presence of Mr. Stephen Reid of the Barbados Marketing Corporation and Mr. James Nurse of Agricultural Management Consultants of Barbados whom we facilitated to attend this meeting and who at rather short notice responded and agreed to share the Barbados experience in agricultural marketing with us.

Our Institute is pleased to be associated with this initiative and on behalf of IICA, I pledge our continued and unswerving support in any future effort designed to improve the food marketing systems in Trinidad and Tobago. ■

Heads of Divisions Meeting of The Ministry of Food Production, Marine Exploitation, Forestry and the Environment

Held at Centeno

• July 29th, 1988

Mr. Chairman, Distinguished Guests, Ladies and Gentlemen.

I would like to thank you for your kind invitation and for the opportunity to present the professional staff of IICA Trinidad and Tobago to your Heads of Divisions Meeting. I am particularly pleased because it provides me with an opportunity to introduce several new members of staff who have recently joined our Institute. First, I would like to introduce Dr. Rafael Salazar of Venezuela, our Specialist in Marketing and an individual with considerable private and public sector experience who will be implementing a project in cooperation with the Central Marketing Agency and other agencies which is designed to improve food marketing systems in Trinidad and Tobago.

Secondly, I would like to introduce, Dr. Barry Stemshorn, a Canadian Animal Health Specialist and most recently Director of the Animal Disease Institute of Agriculture, Canada, who has just been with us for about two weeks. Barry will be assisting in the implementation of a project designed to put in place an Animal Health and Plant Protection Information System in the Caribbean. This project responds to the need in the region for a better information system in relation not only to production but also to the emphasis on increasing intra-regional trade in primary agricultural produce. In that sense, the project while having a strong national component will also relate to the initiatives

of CARICOM and this project is, in fact, one of those approved within the new Draft Regional Agricultural Sector Plan for the Caribbean.

The third member of our staff whom I would like to introduce is no stranger. Dr. Lystra Fletcher is our new National Professional in Generation and Transfer of Technology. Dr. Fletcher's appointment as a National Professional represents a new phase in IICA's technical cooperation approach. The project that Dr. Fletcher is involved in is one which was initiated by NIHERST some time ago. The project seeks to develop a system for the evaluation and monitoring of investments in agricultural research in Trinidad and Tobago. The project involves your Ministry, Caroni (1975) Limited and the Department of Agricultural Economics at U.W.I. IICA's contribution in the appointment of Dr. Fletcher is to assist the project as it falls within the context of our new Medium Term Plan. Dr. Fletcher, as you all know, is a Specialist in Biometrics and Computer Applications to Biological Systems.

Last, but by no means least, I would like to introduce you to Mrs. Marlene Antoine, who I understand is a former employee of your Ministry. We are particularly pleased to have Mrs. Antoine with us as I feel that this arrangement represents the kind of relationship which we seek to foster with your Ministry. We feel that having staff seconded to us benefits both the Ministry and IICA as the bonds of cooperation are strengthened and the technical cooperation efforts enriched. Mrs. Antoine will be working on a project entitled "Small Business Management for the Rural Development Process in Trinidad and Tobago" and this project seeks to bring management expertise to the small business entrepreneur whether the person is in primary production or processing. The project will coordinate activities in small farmer cooperatives, youth groups, etc., where management is considered a limiting factor. The project seeks to identify business opportunities in the agricultural sector. Mrs. Antoine brings a unique blend of experience to this project which we are confident will ensure its success. First, she worked with your Ministry and second she managed a small business for four years.

The appointments of Dr. Fletcher and Mrs. Antoine as National Professionals represent IICA's recognition that local professional expertise can be one of the most effective

mechanisms in technical cooperation where institutional building is one of the objectives of the project, it also recognises the tremendous professional capability in Trinidad and Tobago.

Mr. Chairman, these then are IICA's initiatives in Trinidad and Tobago within the context of the 1987-1991 Medium Term Plan. I would like to point out that IICA's capacity is never limited to the expertise in the national office alone as our Institute has 180 Professionals working in the hemisphere and we have access to many more through consultants.

As you enter the new phase with your proposed restructured Ministry, our Institute will be pleased to work with you and to assist in any way that we can. ■



National Course on Plant Pests and Disease Diagnosis

Held at the Faculty of Agriculture, U. W. I., St. Augustine

• September 19th, 1988

Mr. Chairman, Honourable Minister, Distinguished Guests, Ladies and Gentlemen.

It is for me a very pleasant duty to welcome all of you here this morning on behalf of IICA to the opening of the third in a series of annual courses on Plant Pests and Disease Diagnosis and Control in Trinidad and Tobago. Our Institute recognises that modernization of the agricultural sector of the countries of Latin America and the Caribbean represent one of the most effective strategies for economic recovery in the hemisphere and consequently in the new Medium Term Plan for 1987 to 1991, considerable emphasis is given to the development of strategies for making agriculture the pivot of economic reactivation.

Our Institute also recognises that plant pests and diseases continue to be one of the factors which limit crop productivity and international trade in primary agricultural products and within the context of the Medium Term Plan a program in Animal Health and Plant Protection for the countries of the hemisphere has been given high priority.

This Program has as its specific objectives:

- To cooperate in strengthening the organizational and administrative structures, as

well as the operational systems, of the national programs in order to increase the effectiveness of their animal health and plant protection efforts, and to ensure a better use of human, physical and financial resources.

To collaborate in preventing, controlling, and/or eradicating those diseases and pests of animals and plants identified as the cause of major losses in agricultural production, and which pose the risk of spread at the international level.

To collaborate with the countries in achieving the greatest control possible over diseases and pests affecting animals and plants without placing unnecessary restrictions on marketing.

To cooperate with the countries in strengthening health inspection systems related to the international movement of animals, plants and their products, and to strengthen the emergency systems for the control and eradication of the principal exotic diseases and pests affecting animals and plants.

To inform the countries about scientific and technological progress being made concerning diseases and pests of animals and plants.

To encourage the participation of producers and related agriculture industries in solving the major animal and plant health problems.

To cooperate with government programs in developing and strengthening at all levels information and communication systems supporting animal health and plant protection services.

This course, more than any other, has brought a sense of pride and satisfaction to our Institute in that it demonstrates some essential features of technical cooperation which we would like to foster.

It is often recognised that one of the greatest problems limiting the transfer of relevant

technology to the farming community is the poor linkages between the problems and priorities of the farmers and the extension service on the one hand and inadequate communication between researchers and extension agents on the other. We feel that courses such as this one provide an excellent opportunity for the researchers and the extension agents to communicate and for the extension agents to bring to the attention of the researchers the real problems in the farmers' fields.

Secondly, the course demonstrates that we have in Trinidad and Tobago and particularly in the institutions here represented, professional men and women who can collaborate and work together to produce training material of the highest standards adapted to our local conditions.

Thirdly, the course demonstrates that effective institutional cooperation can be achieved by the promotion of joint programmes and projects.

I have been very gratified at the high level of cooperation of the resource personnel and enthusiasm of the students and participants in this training programme in the past and I feel certain that the objectives which are set are being achieved.

Mr. Chairman, we are fully aware that improvement of the skills of your extension officers in the correct diagnosis of pests and diseases of food crops alone will not improve the food security of the nation but we are convinced that competent, skilled extension staff can make a substantial contribution to the achievement of this goal. For in the final analysis it is the responsibility of the extension officers to ensure that relevant technology and techniques which are developed in the laboratories both in the developed and developing countries are transferred to the most important actors in the food system - the farmers.

Mr. Minister, the graduates of this course will not be experts in plant protection, but they will possess the knowledge and the skills to assist the farmers in Trinidad and Tobago in the diagnosis and control of field problems. In so doing, they can assist in relieving your plant pathologists, entomologists and other specialists of some of the day to day routine work, thus leaving the scientists time for research and for attending to more pressing

problems. I am sure that your Ministry supports this approach. Our Institute, Mr. Chairman, is mindful of the need for relevant technology and the need for information in pest control and with the assistance of the Canadian International Development Agency (CIDA) we have recently initiated a project on Animal Health and Plant Protection Information for the region. This project seeks to provide information which will allow for more rational choice of control strategies and for the economic assessment of the impact of pest and diseases on our agriculture. I would like to take this opportunity to introduce Dr. Barry Stemshorn, a Canadian who is the Coordinator of this project and who has recently joined our staff.

This initiative is geared to providing for better control of the pests and diseases of our livestock and plants and I look forward to the cooperation of your various institutions in this initiative.

To the participants, may I say that this is an excellent opportunity for you to increase your knowledge and upgrade your skills of this subject area so that you can return to your work more competent, more self assured and more useful to your Ministry, your nation and yourself. Take full advantage of the opportunity and give of your best.

Finally, I am grateful for the spirit of cooperation which we have enjoyed from the various institutions namely, the Faculty of Agriculture of the University of the West Indies, the Agricultural Development Bank and the Ministry of Food Production, Marine Exploitation, Forestry and the Environment in organizing this course. Mr. Minister, in these difficult economic times, our Institute pledges our continued support and commitment to the improvement of the agricultural sector in Trinidad and Tobago. ■

Workshop on Animal and Plant Disease and Pest Monitoring for the Caribbean Region

Held at the Normandie Hotel, Port of Spain, Trinidad

• November 17th, 1988

Mr. Chairman, distinguished Permanent Secretary, Directors of IICA's Animal Health and Plant Protection Program, Delegates of the Countries of the Caribbean, distinguished guests, ladies and gentlemen:

I am indeed pleased to have the honour and the privilege of addressing this distinguished audience attending this regional seminar/workshop on Animal and Plant Pest and Disease Monitoring in the Caribbean.

I welcome all of you on behalf of IICA.

This workshop is being held at a time in the Caribbean when the region as a whole is reassessing the role of the agricultural sector in national development and is seeking to weather the economic storms of our day by diversification and re-direction of the sector.

The CARICOM Secretariat in collaboration with our own Institute is in the process of developing a comprehensive agricultural sector plan which reviews the previous experience of agriculture in the region and seeks to delineate a new course for the sector. I would like to quote from the agricultural sector program of CARICOM this morning in order to make a point.

In the section of the document on regional policy trends and experiences (Part I, Section 3.2), the document notes, and I quote:

Export agriculture was generally neglected despite the welcome contributions this sector could and did make to providing foreign exchange. Attention, where it was provided, was primarily focussed on securing preferential access for those products traditionally receiving it, and pursuing it for other major crops which might have emerged.

In this scenario, domestic agriculture was perhaps the most neglected sector of all, and not surprisingly the Region moved from food-surplus to deficit in this period. It is estimated that it is currently importing in excess of US\$1 billion in agricultural produce.

Our individual country reviews indicated that the continued world crisis, mounting external indebtedness, balance of payments and foreign exchange difficulties, fiscal pressures, and the slowing down of social advances seem to have led to a re-evaluation of these policies.

The position has emerged that if agriculture is to play a leading role in reactivating expansion, then emphasis needs to be placed on such strategic considerations as a thrust towards diversification; the promotion of inter-sectoral linkages, market improvements and efficient systems of finance and credit; and the development of an organic indigenous technology. It is within this context, therefore, of a new phase of agricultural development that the Programme is framed. Such a new phase is premised on the re-evaluation and re-direction of public and private policy. The Programme's emphasis on domestic agriculture, non-traditional exports, the transformation of the end uses of traditional products, science and technology, especially in the area of the new technology, agro-industry and domestic input-output linkages; and the regional cooperation, is based on this perspective.

This new agricultural development thrust visualizes increased trade in primary agricultural products and a livestock sector that is modern and efficient and designed to reduce the high food import bill currently associated with imported livestock products.

Clearly, Mr. Chairman, the planners are signalling a new era in Caribbean agriculture where technology and information will be important building blocks in the construction of a new agriculture. But these dreams will not be achieved unless and until the institutional

structures for the delivery of the information and the technology are substantially strengthened.

We in IICA are fully cognizant of the need for institutional strengthening mechanisms and are aware that these are particularly important in the Caribbean because of the small size of our islands and the limited technical and financial resources available.

Mr. Chairman, in organizing this seminar/workshop not only are we bringing together the representatives of 14 countries of the region for dialogue and consultation, but we are also fostering linkages between the disciplines of plant protection and animal health in this region—a relationship which as far as my memory serves me—has not been explored before. We feel certain that there are benefits to be derived from this relationship, and later, the Director of our Program will discuss some aspects of this joint approach.

It is within this context, therefore, that we are pleased to cooperate with the Ministry of Food Production, Marine Exploitation, Forestry and the Environment of Trinidad and Tobago in sponsoring this regional workshop which represents the beginning of a project which is designed to strengthen the institutional mechanisms for provision of reliable animal health and plant protection information and to create regional linkages for effective utilization.

There is little need to re-emphasize that pests of animals and plants continue to create some of the most intractable problems in our agriculture and we must at all times seek solutions not only from within, but we must also draw on the relevant experience of those outside our region. In this context, therefore, I am very pleased to welcome our guests from the University of Guelph, Agriculture Canada, the United States Department of Agriculture, the University of Prince Edward Island, and North Carolina State University.

A significant portion of the funds for this seminar and the the project is derived from the Canadian International Development Agency (CIDA) in a special contract agreement with IICA. We are indeed grateful for such assistance and cooperation.

I hope and wish that this seminar will be a rich, memorable and productive experience and that it will result in the provision of the information and technology building blocks to construct a new Caribbean Agriculture in the 1990s and beyond. ■

Plant Protection in the context of the Diversification of Agriculture in the Caribbean in the Year 2000

Held at the Normandle Hotel, Port of Spain, Trinidad

• November 16th, 1988

Mr. Chairman, distinguished guests, ladies and gentlemen. . .

When I was invited to present an address at the opening of this Workshop on Plant Protection in the Eastern Caribbean States, I was concerned as to what would have been an appropriate message to bring to such a distinguished group of scientists and decision makers, for I am concerned that an Opening Address at a meeting such as this should bring guidance, inspiration, hope and direction to the efforts of those who work in the field of plant protection and should seek to assist in the development of strategies and approaches which give direction and meaning to the future initiatives. I, therefore, decided not to lament the poor state of our plant protection services, rather I decided to attempt to look to the future and to try to map the kind of goals which we should set for ourselves towards the year 2000. An ambitious task! . . .

In the year 2000, which is now 11 years away, what should be the state of plant protection to serve the needs of Caribbean Agriculture? For those of you who may think that the year 2000 is very far away, let me remind those of you with children that your 11 year old was a baby just the other day and therefore, time is short. In order, however, to visualize the role of plant protection in the Caribbean in the year 2000, it is necessary to visualize agriculture in the Caribbean in the year 2000.

Here then begins my journey into the future

It is now November 16, 1999, and the Caribbean Community Secretariat has confirmed that the last vestiges of the barriers to regional trade in agricultural produce in the Caribbean Community have been removed. The Caribbean has thus become a true common market and is only the second of its kind in the world following the European Common Market which was established in 1992. Food Production in the Community has been growing at an average rate of 6 percent per annum in the last few years and the variety of food available has increased considerably as a result of the diversification programs which were established in the late 1980s and early 1990s.

The Director of Plant Protection and Quarantine at the CARICOM Secretariat, reported that the Common Market Committee on Plant Protection and Quarantine, which is made up of the Heads of National Units in all the member states, have reported no incidence of disease spread from country to country during the last year, but reported several interceptions as a result of the efficient plant quarantine inspection services in each country. These Plant Quarantine services were strengthened in the late 1990s, and each service now consists of three components: Plant Quarantine Inspectors, Survey Personnel and a Diagnostic Service. Both the diagnostic service and the survey personnel are part of a regional network which is coordinated by a Regional Pest Monitoring Centre at the Faculty of Agriculture of The University of the West Indies.

This centre is a training, diagnostic, information and research facility. This facility carries out research on plant quarantine issues, surveys methods and pesticide residue analysis. The facility organizes annual meetings which update all personnel on current methodologies and techniques in plant protection. The facility serves also as the point of reference for all identifications, diagnosis and survey work on plant pests and diseases in the region. The facility trains Plant Quarantine Officers for the region. The facility is linked to national units by computer and up-to-date information on the incidence and distribution of pests and disease incidence is communicated to the national units from the centre. Information on current pesticide usage, control measures and research results is accessible from a central Data Base. The Centre also has an Emergency Fund to respond to the

outbreak of any pest of disease in the Community.

Pesticide usage on major crops has declined rapidly in recent years as a result of a successful integrated pest management program which was introduced into the region in 1992. In addition, there has been no rejection of produce from the Caribbean in North America or Europe during the year due to high pesticide residue levels as a result of the Integrated Pest Management Program and the establishment of a Regional Pesticide Testing Service (RPTS) in the Regional Pest Monitoring Centre (RPMC).

The facility was established in the early 1990s as a result of the policies of some countries mainly in the north who banned importation of specific agricultural exports with high levels of pesticides.

Visitors to the Caribbean have been amazed at the high level of sophistication and organization of the plant protection services, but these have been the results of many years of struggle by professionals in plant protection of the islands in the 1960s, 1970s, and 1980s, who recognized the critical role which plant protection must play in the transformation of the agricultural economies from the production of sugar, bananas, cocoa and coffee to tropical fruits and food crops. Their efforts were assisted by the outbreak of many devastating diseases and pests during these years but particularly by the discovery of the African Desert Locusts in the Caribbean in 1988 which was reported in almost all the islands simultaneously and resulted in a regional response. The outbreak was of such concern that plant protection officials met in Port of Spain in November 1988 and presented the Mandate of Port of Spain to their Governments warning them of the seriousness of disease and pest outbreaks and the need for an effective regional system of Plant Quarantine and Plant Protection. The success of Plant Protection in the Caribbean today, the year 2000, must be attributed in part to the hard work and dedication of those who met in Port of Spain in 1988.

May I take this opportunity to wish you all the very best in your deliberations. ■



A Seminar on Small Business Management

Held at the Holiday Inn, Port of Spain, Trinidad

• *November 28th, 1988*

Mr. Chairman, Honourable Minister, Your Excellency, Mr. Bryan Springgay, Course Participants, Resource Personnel, Distinguished Guests, Ladies and Gentlemen ...

On behalf of IICA, I am very pleased to welcome all of you here this morning to the opening of this course on "Small Business Management." I am particularly pleased to welcome you here, Mr. Minister, because the opening of this course marks the beginning of implementation of some ideas which we discussed in 1987 when you first assumed the seat as Minister of Food Production, Marine Exploitation, Forestry and the Environment.

Those discussions led to the invitation of one of our most respected Rural Development Specialists, Mrs. Jan Hurwitch-MacDonald, to Trinidad and Tobago and to the eventual development of a project entitled "Small Business Management for the Rural Development Process in Trinidad and Tobago" which has been approved by our Institute for financing over the next four years.

We have recently appointed a former employee of your Ministry, Mrs. Marlene Antoine, to coordinate this project and named an Advisory Committee consisting of representatives from the Agricultural Development Bank (ADB), the Industrial Development Corporation (IDC), the Management Development Centre (MDC), the Ministry of Youth, Sports and

Creative Arts and your Ministry.

The main objective of the project is to support the initiatives of national institutions in the development of small scale agribusiness/enterprises through the provision of technical advice and business management training. This programme is about business management for farmers and other micro entrepreneurs.

Immediately when one examines the scope of the objective one may ask the question--why not a project in farm management as we know it? There are several answers to this question. It is our view that:

- (i) the farmer must not only be a farm manager, he must be a businessman; he must see his farm as a productive business investment which provides income for his family and savings for growth, expansion and future commitments. It is important that agriculture be seen as a business.*
- (ii) the principles of business management can be applied to any enterprise.*
- (iii) we see the training process as not only assisting those already in business but attracting others.*
- (iv) we believe that the methodology which we have developed is not only applicable to farmers but also to craftsmen, small agri-processors, fishermen, cottage industry persons, and indeed, anyone interested in starting and financing a small business in Trinidad and Tobago.*

What then are the differences between a farmer or a farm manager and a businessman? We are equating a businessman with an entrepreneur. By definition an entrepreneur is "a person who organizes and manages a business or industrial enterprise, taking the risk of loss and getting the profit when there is one." I also believe that an entrepreneur converts ideas into profit.

We would wish that all our farmers become entrepreneurs and that we hope to attract the youth and the unemployed to become gainfully employed by seeing opportunities which they never saw before. This can only happen by having an orientation which leads to a creative mindset. For creativity is the mother of entrepreneurship.

We believe that the business of budgeting, cash flow planning, net worth statements and statements of business performance should not be restricted to big business but should be incorporated into each farming enterprise and every small business in the country.

It has been our experience that self-confidence on the part of farmers increases significantly after participating in our business management courses and that this leads to identification of opportunities which were not apparent previously.

We are aware that not everyone is made up to be an entrepreneur, but we also feel that there is a considerable amount of hidden talent in this society which if unlocked to the resumption of economic growth and higher employment levels.

We are not alone in this thinking and I would like to acknowledge the presence of the Acting High Commissioner for Canada who has agreed to support this initiative especially as it relates to strengthening and training the personnel of small farmer cooperatives in business management.

In addition, we launch today our Small Business Manual, the basic tool of our training programme which is entitled "Starting and Financing a Small Business in Trinidad and Tobago: A Guide."

This manual is a modification of a manual previously produced in Jamaica and which has been used to train some 7,000 persons in that country. The manual is divided into three parts as follows:

Part I - Feasibility; Part II - Financing; Part III - Setting up Your Small Business.

Part I - Feasibility

This section begins the process of looking at a business from the initial idea, through the analysis of resources needed, to the final decision. It includes looking at possible business alternatives, deciding on all needed resources, studying market demand and finally preparing a feasibility study for the proposed business.

The feasibility study essentially has four parts. Part I examines the abilities needed for running the proposed business as well as the decisions that must be made on how the business will be set up and managed. Part II assists in estimating the probable market for the products or services to be offered and the probable prices and sales volume. Part III helps to determine the probable income, and looks at the costs of setting up and operating the business and how these costs will be financed. Part IV compares the projects income with alternative uses of time and skills. This section leads to the final decision as to the viability of the venture.

Part II - Financing

The primary concern of the micro-entrepreneur is the availability of money. How much will it cost to set up his business and keep it running? Where will he get financing? Will he have enough to feed his family? These, and other important questions, are examined in this section on financing. It particularly addresses the theme of "What is financing and why is it important?" There is a focus on special loan programmes available in Trinidad and Tobago. It provides guidance in preparing loan and grant proposals. Of further importance is the help it gives in putting the financial considerations in their proper perspective as just one of the necessary ingredients in starting a business.

Part III - Setting Up Your Small Business

This last section deals with all the other necessary components of starting a business. One purpose is to show that running a business is a time-consuming job that makes constant demands on an individuals thoughts and energies. It deals with the seemingly mundane, yet important, tasks of selecting the legal structure of the business, using a bank, and customer relations. It stresses the necessary analysis that must go into making plans for the decision about marketing and production. Finally, it highlights the simple things, the

need for basic records. Without the commitment to set up and keep these records, no business will survive and grow.

We are convinced that a vibrant small business sector could be the centre of a development strategy for the resuscitation of the economy of this country.

I welcome all of you and look forward to this course making a contribution to the reactivation of economic growth in Trinidad and Tobago. ■



A Seminar on Post Harvest Technology of Peppers

Held at Centeno, Trinidad

• *December 14th, 1988*

Mr. Chairman, Acting Chief Technical Officer, distinguished guests, ladies and gentlemen.

On behalf of IICA, I am very pleased to welcome all of you here this morning to this Seminar on Post-Harvest handling of Hot Peppers, which is being sponsored by the Ministry of Food Production, Marine Exploitation, Forestry and the Environment and ourselves.

Our Institute is acutely aware of the need for the effective application of postharvest technology in food marketing and has set out as one of its five programmes in the current medium term plan, a programme in agricultural marketing and agroindustry.

This programme recognises that the inadequate infrastructure for the handling, storage, preservation and agroindustrial processing of foodstuffs and raw materials has a negative impact on food security and on providing producers with a margin of profit and consumers with acceptable quality and price levels

Improvement in food self-sufficiency and food security in Trinidad and Tobago will spend to some extent on improvement in the marketing system for food crops. In 1985, the Government of Trinidad and Tobago requested IICA's assistance in preparation of projects for establishment of an improved marketing system for food crops.

A mission visited Trinidad and Tobago from August 25 to 31, 1985, and prepared "Proposals for the Improvement of domestic marketing of fruits and vegetables in Trinidad and Tobago." The mission noted in Recommendation 6 (Research and Training) that "While the curriculum of the national institutions of technical and higher learning, specifically ECIAF and the Faculty of Agriculture, UWI does provide for some courses in agricultural marketing and post-harvest technology, these programmes should be reviewed with a view to giving greater emphasis and specialized training in these fields, as well as undertaking and supporting the relevant research. A national course in post-harvest technology and marketing seems necessary."

We are pleased that our current initiative seeks to give effect to some of the recommendations of the study particularly the establishment of a market information system, and training in marketing and post-harvest technology. In addition, we are currently preparing a series of standards for tomatoes, okras, melonges, cabbages, bananas, cucumbers, sweet peppers, hot peppers.

We are pleased that our Institute has found it possible to provide the services of Dr. Rafael Salazar for a two-year period in the first instance to assist the Government of Trinidad and Tobago in this important area of work.

I am pleased, Mr. Chief Technical Officer, to present to you a copy of a Manual entitled "A Farmer's Manual on Post Harvest Handling of Perishables."

The presentation of this manual to you, Sir, and by extension to your Ministry represents our continuing commitment to producing in Trinidad and Tobago a cadre of farmers who are not only businessmen but who are capable of utilizing the latest in technology to the benefit of themselves and ultimately agricultural development in Trinidad and Tobago.

In this regard, therefore, Mr. Chairman, I hope that the Manual will be widely distributed and will serve as the basis for an improved post harvest treatment of crops in this country.

May I then, Mr. Chairman, express our sincere gratitude to your Ministry, particularly

your Post Harvest Unit in general and Mr. Majeed Mohammed in particular, for the support and collaboration which we have received in this and several other activities.

Our Institute is pleased to be associated with this initiative and on behalf of IICA, I pledge our continued and unwavering support to any future effort designed to improve the food marketing systems in Trinidad and Tobago. ■



***A Seminar on "Introduction of a
Systems Approach to Programme
Planning and Project Monitoring
in the Ministry of Food
Production, Marine Exploitation,
Forestry and the Environment"***

Held at Kopok Hotel, Trinidad

• February 2nd, 1989

Mr. Chairman, Honourable Minister, distinguished Permanent Secretaries, Course Participants, Ladies and Gentlemen.

On behalf of IICA, I am very pleased to welcome all of you here this morning to the opening of this course on The Development of an Annual Programming and Monitoring System for the Ministry. I am particularly pleased to welcome you here, Mr. Minister, as this Seminar is the first tangible public act resulting from discussions which you held with our Director General in November 1988 during his official visit to Trinidad and Tobago.

Since your request on November 7th, Mr. Gonsalo Estefanell came to Trinidad on November 12th and made a preliminary assessment of the request. We are pleased to have Mr. Estefanell with us again today. In a sense Mr. Estefanell is now no stranger to Trinidad and Tobago having been part of the Marketing Mission to Trinidad in 1985 and contributed to a seminar on project preparation in the Faculty of Agriculture some years earlier.

We believe that we can assist in this endeavour as we are convinced that management, monitoring and evaluation of technical activity is an important element in any effort to improve institutional performance. I think it is somewhat ironic that in the Caribbean we

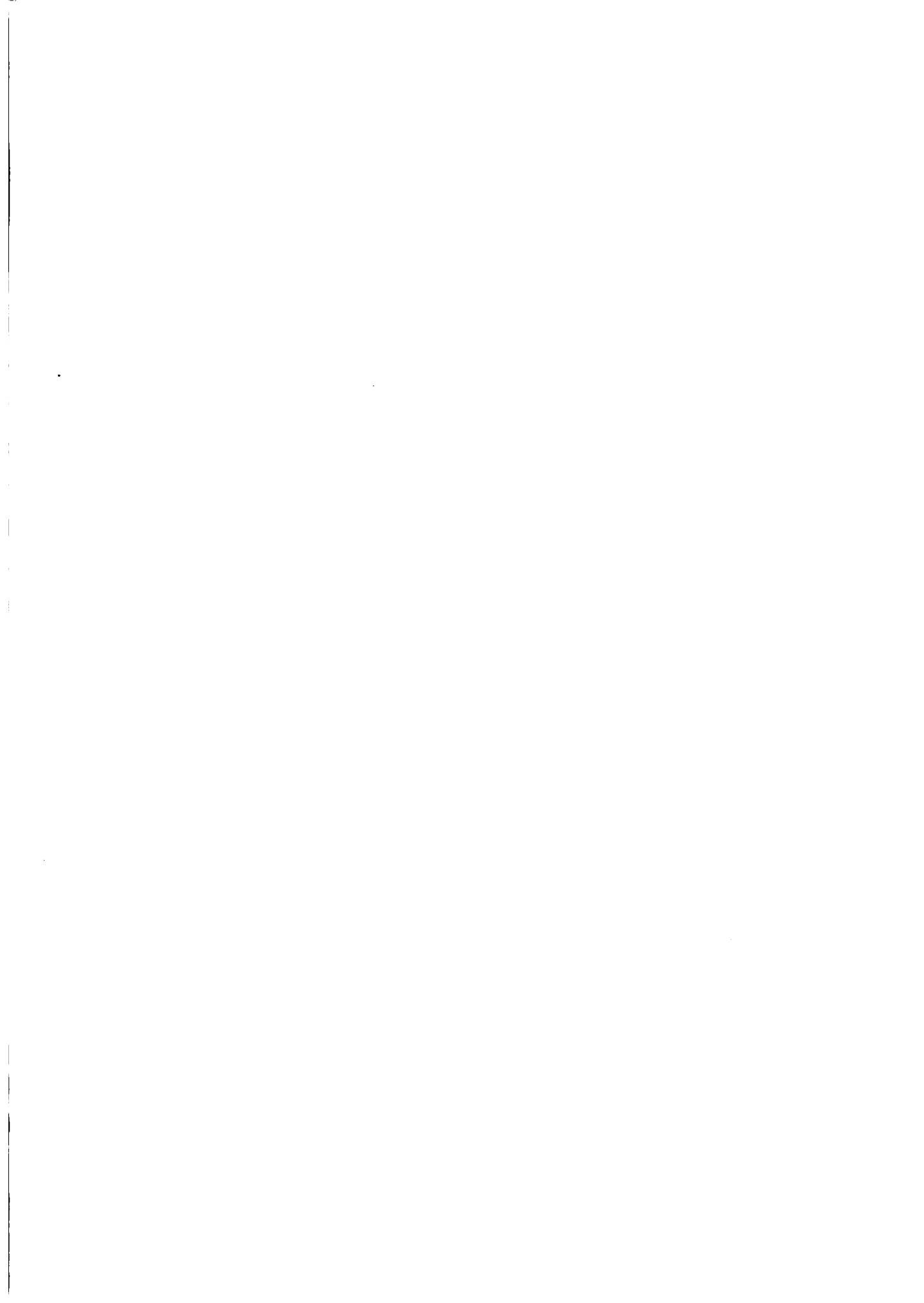
have developed rather sophisticated methods for budgetary monitoring and auditing of financial resources, but we have paid only limited attention to project management and technical accountability.

I believe that this seminar will assist in focussing on this important area of work and on the importance of evaluation of projects as being as important as project implementation.

This is so because evaluation and monitoring allows us to do mid-course corrections and to learn from our mistakes.

These initiatives fall within the context of Programme I of the current Medium Term Plan 1987-1991, as they relate to support for the countries in strengthening analytical and advisory skills for formulating and implementation of agricultural sector plans and policies; specifically, to assist planning and policy formulation units in specifying their data needs and organizing strategies to assist in decision making.

I am therefore pleased to be here and I hope that this Seminar will mark the beginning of a fruitful relationship between IICA and your Ministry in development of an effective systems approach to annual programming, budgeting, monitoring and evaluation. ■





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