



ANNUAL REPORT 1986

INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE



IICA-CIITA

1987
20 NOV 1987
LIBRARY

ANNUAL REPORT 1986

INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE

SAN JOSE, COSTA RICA

00001257

COVER:

DYED WOOL COMPOSITION, HUICHOL CULTURE, MEXICO

TITLE OF THE WORK: "After the Flood".

ARTIST: Tutukila (Tiburcio Camilo Camilo)

PHOTOGRAPHER: Juan Negrín

"When the flood was over, Our Ancestors first found dry land in the center of Lake Chapala Here, seated in a boat, we see Huatácame, with an oar, Tacutsi, Our Greatgrandmother, Goddess of Growing Things, with her cane and little black dog... Also in the boat we see a squash, maize and other grains that they saved from the former world... Huatácame left the arrow that symbolizes his powers in the place called Jauramanaka, hanging from his arrow he left a volve gourd, in the name of Our Mother the Damp Earth, and also a nierca, that represents his role as a cultivator of the earth, next to a maize stalk... Our Mother of the Damp Earth decided to return to the coast, accompanied by Huatácame and the little black dog. She carries a ceramic jar and a volve gourd, which contains all the seeds for a new planting... Huatácame carries a skin of water, his machete, and a digging stick called a turcui. The maize plant symbolizes the fertility of the coastal lands."

The engravings and texts at the beginning of each chapter are from the sixteenth century Peruvian chronicle "El Primer Nueva Corónica y Buen Gobierno" by Felipe Guamán Poma de Ayala (Waman Puma)

IICA
E14

Inter-American Institute for Cooperation on Agriculture, San
Jose (Costa Rica)
Annual report 1986 – San Jose, Costa Rica : IICA, 1987.
190 p.

ISBN 92 9039 126X

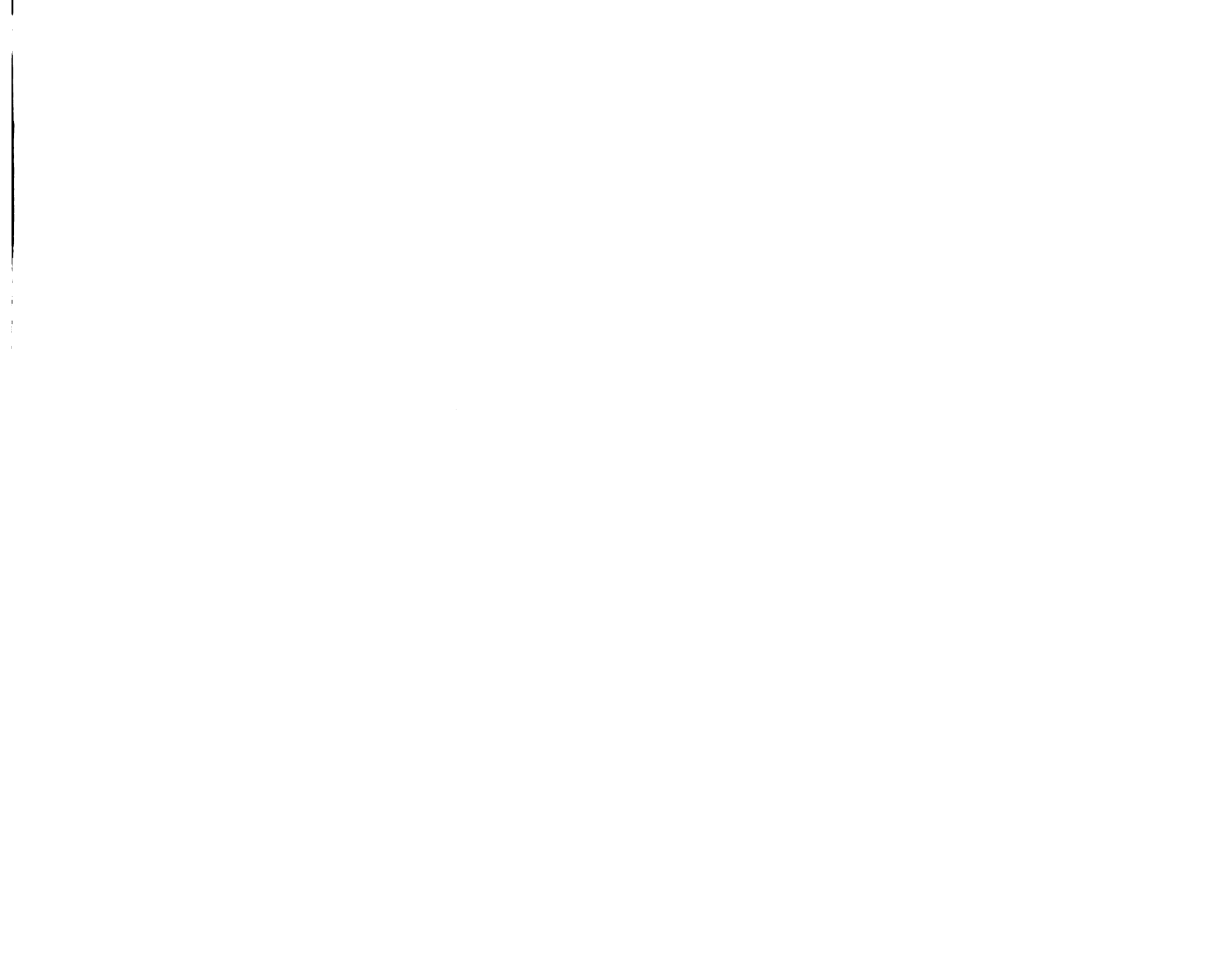
1. IICA – Annual report. I. Title.

AGRIS
E14

DEWEY
630

Contents

Preface	5
Chapter 1 IICA action in the countries	7
Chapter 2 Multinational projects	111
Chapter 3 New directions	131
Chapter 4 Institutional relations	143
Chapter 5 Human resources and finances	153
Appendix 1 List of publications	161
Appendix 2 Extra-quota agreements and contracts	171



Preface

The preparation of the Annual Report is called for in Article 20 of the Convention. Its purpose is to give the Member States a picture of the Institute's activities during the year.

Nineteen eighty-six was a year of transition, when changes were introduced in the orientation of Institute actions. Accordingly, the structure of this Annual Report reflects the shift from the Institute's past actions to its present course as stipulated in the 1987-1991 Medium Term Plan.

The initiative to review the direction of IICA's actions was taken at the meeting of the Inter-American Board of Agriculture (IABA) held in October, 1985 in Montevideo. There the decision was made to review and evaluate the 1983-1987 Medium Term Plan and the programs and projects being implemented at that time to ensure that they were compatible with changing needs in the countries.

In compliance with these stipulations, IICA combined the findings of an external Group of Experts (G-6) with opinions expressed by Member States upon consultation, and, after evaluation of the existing document, proceeded to draft a new Medium Term Plan for the period 1987-1991. The proposal was discussed by the Executive Committee in July, 1986 and approved by the IABA at its meeting in October, 1986 in Mexico.

The Member States thus defined a new frame of reference for IICA's future actions, characterized by a greater concentration of activities in subject areas considered to be of high priority for the region and by greater efficiency and flexibility in the operations centers.

These new directions introduced the need to alter IICA's management of human and financial resources so as to make them more compatible with the changes. In order to achieve this, modifi-

cations were proposed to the Rules of Procedure of the General Directorate, the Staff Rules, and the 1987 Program Budget, and all of them were approved by the IABA. These modifications were designed to streamline the use of the Institute's basic resources and ensure the high degree of technical excellence needed to support action in the Member States efficiently.

As part of the process to upgrade and restructure the normative framework, and in response to concerns in the countries, a proposal was drafted for a new charter to govern the Tropical Agriculture Research and Training Center (CATIE). It was then approved by the governing bodies of the Institute and will facilitate improvements in the Center's operations.

The activities of 1986, in which the countries played a major role, provided the Institute with clear definitions of priorities for the next five years, and with an appropriate organizational structure. It can be said, then, that 1986 was a year of "institutional readjustment" in response to the countries' new needs and changing approaches to technical cooperation.

At the level of operations, these modifications have required intense reprogramming efforts to ensure that new activities being implemented, as well as those already under way, are compatible with the priority areas established in the Medium Term Plan and fit into the new operating structures.

Existing projects continued, and visits were made to the countries to improve communication, learn more about real needs, and step up applications for external financing as an effective way to increase operating funds.

This Annual Report is a summary of these activities.

The first two chapters summarize actions IICA carried out in 1986.

Chapter 1 lists the projects implemented in each country and provides detailed descriptions of some of the more representative projects.

Chapter 2 summarizes many of the multinational projects implemented during the year.

Chapter 3 describes the new guidelines and directions for Institute action.

Chapter 4 outlines IICA's relations with other organizations for technical and financial cooperation and the meetings of its governing bodies.

Chapter 5 summarizes IICA's actions as regards human and financial resources and includes a financial statement for 1986.

Appendix 1 contains a list of publications produced by the IICA Editorial Service and the offices in the member countries. Appendix 2 lists extra-quota agreements and contracts signed by IICA with the Member States, international agencies, foundations and other entities.

A handwritten signature in black ink, consisting of a stylized 'M' followed by a long horizontal stroke that tapers to the right.

Martín E. Piñeiro
Director General

ABRIL

En este mes madura el maíz y papas y otras comidas y frutas.

De todo ello será Dios servido y su Magestad y bien y multiplico de los yndios.

En este mes anda el uino uarato y caro las comidas en los llanos y uarato en la cierra. Toda las comidas y uerduras y frutas son todas sanas, maduras y los hombres y mugeres, niños, biejos, enfermos andan sanos. Conualesen el ganado, engordan las aues más y los peses, todo están gordos como ay abundancia de pan y uino, carne.



Chapter 1

IICA action in the countries

This chapter contains a list of the most significant actions implemented by IICA in the member countries. The information is divided into four sections that correspond to the Institute's geographic areas (Central, Caribbean, Andean, and Southern), which encompass all of the 27 countries in which cooperation actions take place.

Each section begins with a brief summary of agricultural conditions in the area, followed by a list of activities conducted in each country. Some of these actions were initiated in 1986, while others began earlier and are still in effect. This is followed by a detailed description of a single project selected as representative of the Institute's action in that country.

This chapter also presents a recapitulation of all projects being implemented in the countries, to facilitate a better understanding of the Institute's action. In compliance with the stipulations of the Sixth Regular Meeting of the Executive Committee, held in San Jose in July, 1986, these tables include descriptions of project objectives and progress reports based on information available at the time of writing.

Central Area

The Institute's Central Area encompasses Mexico, the five countries of the Central American Common Market (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua), Panama and the Dominican Republic. This is an area characterized by multiple links of reciprocal cooperation where IICA is currently managing several area-wide projects.

In general terms, the countries in the Central Area (with the exception of Mexico) face problems that should be addressed by similar national strategies, on the one hand, and a common area-wide strategy on the other. Mexico can support these strategies by providing training and technical cooperation.

Central America, Panama and the Dominican Republic comprise more than 500,000 km² of land, while Mexico covers another two million. Thus, the area has the potential, in terms of land area and abundance of natural resources, to provide its inhabitants with an adequate standard of living.

First of all, the area's varied climate and the quality of its physical resources allow for an immense variety of agricultural products for the international market and for domestic consumption. Today's human and capital resources and industrial base have been highly developed for many traditional export products (coffee, sugar, cotton, bananas, beef, and others) and could be successfully adapted to other export products and goods for domestic consumer and industrial markets. Additionally, large resource groups such as fisheries, forestry and others have hardly been tapped by many of the countries.

A second factor of major importance enjoyed by the countries is their privileged geographic location relative to the vast markets of more developed countries, Venezuela, and the Caribbean. The agricultural products suited to this area thus have much room for growth. This advantage can make itself felt more profoundly if transportation costs can be reduced. It is also important to note that the harvest season for many Central Area products coincides with the winter season in the countries of the northern hemisphere, characterized by heavy demand and high prices.

All these factors converge to paint a picture of challenging opportunities for agricultural export. On the other hand, this area has over 100 million inhabitants and imports large volumes of agri-

cultural products every year. Therefore, it is in a position to frame a development policy based on the substitution of agricultural imports so as to increase reciprocal trade and improve its supply channels by way of joint trade agreements.

Since the 1960s, the countries in Central America have formalized cooperative efforts to encourage development. This process of integration was very successful during the 1960s and 1970s and led to the establishment of many organizations and mechanisms for institutionalizing the process.

Presently, the Central American countries are most concerned with the following interrelated issues: the political situation, the foreign debt, and socioeconomic conditions. The economies of the countries of the Central Area are swiftly deteriorating due to the slump in international trade and falling prices, the shortage of foreign exchange and the difficulty of obtaining outside credits. Internal and external investment has fallen short, and the fiscal deficit has swollen to absorb increasing amounts of financial resources, diverting them from production. Most government enterprises face administrative difficulties, and many leaders of private companies are ill prepared to tap international market opportunities.

All the countries of the area have been touched by the crisis in the sugar industry, especially the Dominican Republic and Panama. At the same time, imports have declined and domestic consumption of local products is on the wane. Most of the population has grown poorer, and unemployment is climbing in both rural and urban zones.

COSTA RICA

The agricultural sector, foundation of Costa Rica's economy, was responsible for 20 percent of the GDP and 62 percent of all foreign earnings in 1985. The sector has the potential to contribute still more if the country's productive structure shifts towards nontraditional, high-demand export commodities.

With this in mind, IICA has supported Costa Rica's actions to strengthen mechanisms for implementing and adjusting sectoral policies and to identify, prepare and implement rural development

projects focusing on production activities, especially of nontraditional export items. Similarly, the Institute supported cooperatives made up of young agriculturists.

Project action

The Institute's activities during this period focused on support for national institutions in implementing high-priority agricultural projects and on technical cooperation for rural cooperatives, especially youth cooperatives. IICA also contributed to the preparation of agroecological zoning plans and the development of agricultural school farms.

IICA's support for the National Program of Youth and Student Cooperatives in Costa Rica began in 1984 as a way of helping to alleviate unemployment among young people in rural areas by incorporating them into the production process. IICA helped design and implement special courses and provide interinstitutional coordination to ensure that the cooperatives would receive technical assistance. Moreover, the Institute developed instruments for evaluation and follow-up and presented them to the Youth Cooperative Program for implementation in 1987. In conjunction with Program specialists, it planned and carried out field training in different cooperatives and held evaluation exercises with instructors currently working in cooperatives that use IICA's proposed methodologies.

The Institute helped prepare proposals for financing plans for production in cooperatives, and to design instruments and plan the activities of different departments in the Cooperative Program. Technical assistance plans for cooperatives were designed in conjunction with the head of the department, and instruments for record keeping and controls in six cooperatives were developed with the Program specialist. Program specialists received support in designing and coordinating publications on cooperative theory. Finally, a proposal was prepared for submission to the Inter-American Development Bank (IDB). It calls for the creation of a cooperative loan fund to be managed by the National Cooperative Union.

In conjunction with national institutions, an international seminar was organized to discuss options for incorporating rural youth into the process of production. The seminar was attended by participants from Spain and the countries of the Caribbean basin. In addition, a course on cooperative theory was organized for spe-

cialists from the Agricultural Development Institute (IDA) and the National Youth Movement.

The project assisted in the creation of the National Youth Cooperative Program, which was designed to alleviate the problem of rural youth unemployment. The Program has established 28 cooperatives, of which 22 are fully operational.

The Institute's technical cooperation to support zoning projects for the consolidation of agricultural development and renewable natural resources were concentrated in the northern Huetar region. Agroecological zoning in the region in 1985 had led to the publication of a paper describing agricultural zoning methods and their application in the same region. The second phase was completed in 1986 and introduced socioeconomic considerations. It included the development of current maps on land use, a transportation network, agroindustry, and population centers, and the implementation of a survey to determine the socioeconomic variables related to the agroecological zoning maps.

This project was designed to correct inappropriate patterns of land use prevalent throughout the country. For example, many acres of prime agricultural land are either covered by forest or occupied with livestock. At the same time, unsuitable areas are being farmed. It is also common to find crops being cultivated in zones with inappropriate agroecological conditions.

The results made it possible to develop a new basic instrument for reorganizing agricultural activities in the northern Huetar region. The original plan calls for research actions to be developed in all of the country's administrative regions.

IICA's cooperation for integrated planning of agricultural farm schools began in 1980, in response to perceived problems. The farms were not being used effectively as tools of agricultural education, nor did they generate income to be used toward financing operations. The project was completed with the delivery of planning documents for 10 agricultural school farms. Also, a proposal was presented for improving school administration. This action will study the administrative organization of five schools and help them obtain financial resources from national banks to implement farm plans.

Other IICA actions for technical cooperation included support for training specialists from the Planning Unit of the Ministry of Agriculture and Livestock (MAG). They learned to design methods

for preparing annual operating plans for eight regional directorates and five national directorates. A general framework was prepared that would guide institutional policies. MAG was also given logistical help for a seminar on effective leadership for all director-level personnel, and in establishing a new Department of External Resources.

Through CEPI, the Institute taught three courses on the preparation and evaluation of investment projects, attended by professionals from the National Bank of Costa Rica, IDA, MAG and several institutions of the cooperative movement.

Support for Agricultural Sector Institutions in Program and Project Management *

During the past year, work was completed on instruments and procedures for implementing the Program to Increase Agricultural Productivity (PIPA). The work was financed by the IDB and concluded with the publication of five documents describing the PIPA conceptual foundation and its methods for follow-up and evaluation; the documents were presented to high-level officials from agricultural sector agencies.

This marked completion of the design phase of the Information System for Sectoral Decisions (SIDESE). The system is viewed as important in providing follow-up and evaluation in the sector. Components included the design of data base systems, a program for information management with microcomputers, and an inventory of the equipment required by the Executive Secretary for Agricultural Sector Planning and Renewable Natural Resources (SEPSA) to operate the system.

At year's end, in accordance with provisions contained in the project, work began for transferring experiences generated during the design and implementation of the PIPA management mechanisms to another high-priority IDA project.

In-service training was provided for officials managing high-priority programs and projects at the sectoral level. This training took the form of two workshops, attended by 49 staff members from

* For each country, one project has been selected as characteristic of IICA's endeavors.

MAG and IDA, on project management. The approach included development of knowledge and capacity needed for: a) using special techniques to define results; b) programming and allocating resources and responsibilities; c) performing follow-up and evaluation; and d) using group methods to improve the effectiveness of project management.

Cooperation activities during the course of the year have directly involved officials from SEPSA, the Executive Office of PIPA, the Assistant Directorate of Agricultural Research, the Assistant Directorate of Agricultural Extension, and MAG regional officers. Other participants included people who will be assigned to the new Executive Office of the Coto Sur Agroindustrial Development Project and personnel from IDA's Planning Office. This

project is scheduled to conclude in December, 1987, with the completion of the process of transferring PIPA's management experiences to the Coto Sur Agroindustrial Development Project, which is under the responsibility of IDA and is being financed by the IDB.

Actions will involve training IDA officials in project management and consolidating the project's Executive Unit. A strategy will be designed, a plan of action will be prepared, and support will be provided for key activities.

Finally, emphasis will be placed on the publication and dissemination of the systems, techniques, and instruments for program and project management, sectoral follow-up, and evaluation that were developed.

COSTA RICA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resource		Resources	
			Source	Amount	IICA	Total
Integrated planning of Agricultural School Farms	Make efficient use of the school farms so as to reach educational objectives and provide a source of income.	Production plans for 95 percent of the country's schools successfully concluded.	IICA/MEP	4 927	5 263	10 190
Zoning Support for Agricultural Development and Renewable Natural Resources	Contribute to the correction of inappropriate soil use.	Instruments designed for structuring soil use in the northern Huetar region.	IICA/ MAG/ MIDEPLAN	17 844	70 669	88 513
Institutional Support for the National Program of Student and Youth Cooperatives in Costa Rica	Develop and test an associative model for incorporating youth into the process of production.	22 youth cooperatives created and trained in management, organization and production.	IICA/ UNACCOOP	29 913	37 816	67 729

COSTA RICA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for Agricultural Sector Institutions in Management of High-Priority Programs and Projects	Implement guidance mechanisms in programs and related projects in operation.	Process begun for transferring experiences generated by PIPA to other high-priority IDA projects.		0	82 600	82 600
Technical Cooperation Services for the Program to Increase Agricultural Production (PIPA)	Strengthen the managerial skills of personnel responsible for managing high-priority programs and projects.	Training provided for 49 MAG and IDA officials responsible for managing high-priority projects.	IICA/MAG	117 829	0	117 829

DOMINICAN REPUBLIC

IICA has helped to strengthen managerial skills in rural development programs and projects in the Dominican Republic. It has also supported programs to improve marketing systems for domestic supply and export. Work has included supporting efforts to improve agricultural production and upgrade capabilities for formulating and implementing agricultural policies. Technical support has been given to the reorganization and operation of the technology generation and transfer system. Finally, IICA has used external resources to continue supporting efforts to halt the destruction of natural resources.

Project action

The country has undergone a period of profound change. Nevertheless, the activities carried out were consistent with original plans

and, in many cases, expanded to meet new demands that emerged during the year.

New requests for technical cooperation were met, particularly for developing new areas. Resources have been acquired from the World Bank's International Fund for Agricultural Development (IFAD), to formulate a project in one of the country's poorer areas. Interest is still high in having IICA participate in an area development project, based on the operation of an irrigation system in the northern part of the country.

A marketing project was carried out and served as the key for negotiating and follow-up on projects of different national agencies. The purpose of these projects would be to improve the research system in the country.

Support was given to centers for consolidating rural services, which are important core groups in the marketing strategy that IICA has been promoting for the past ten years. The project for Integrated Rural Service Centers (CENSERI) continued to be relevant, although support actions have been limited, perhaps due

to budgetary reductions in the sector during recent years. Nevertheless, the proposed strategy provides a sound basis for developing systems to improve domestic supply. This model also has potential for fitting into a comprehensive strategy to improve commodity marketing for export of nontraditional goods.

Another important activity in this field was the formulation of a project to improve food distribution in the urban zone. Studies conducted for project formulation included market reorganization in the capital city, and the introduction of a mobile market system with the participation of organized producers.

IICA helped improve livestock production by making use of the ties between the Livestock Research Service and the Livestock Extension Service of the Secretariat of State for Agriculture (SEA). Activities focused on promoting livestock production systems and models.

Specific activities were conducted to support the Livestock Research Center (CENIP) in its evaluation of specialized models for livestock systems. A previous proposal from IICA was already available for developing livestock extension in four regions of the country, and it provided a firm basis for developing a new proposal to the present dairy production plan. The approach was enhanced with the use of new instruments introduced by IICA as a result of its work in a research project in the eastern zone, supported by IDRC.

The purpose of this experiment was to generate the instruments needed for using information obtained at the farm level. A team was set up and trained in the following areas: structuring the data base, using a statistical package for farm analysis, and organizing a working team to take on field- and government-level actions for collecting, processing and analyzing data.

With this mechanism, it was possible to establish clearly the need for farmers to receive support services. They require production forecasts and timely warnings of health problems, as well as other basic services.

The Institute worked with a project to consolidate a system for planning and implementation of SEA policies and services, coordinating its technical cooperation with the use of mechanisms designed for carrying out the IFAD II project in the Monte Plata area. Thus, IICA played a role in the areas of marketing, animal production and technology generation and transfer.

The SEA Extension Service used certain features of this experiment to enrich the proposal that was being applied in the rest of the country. The IICA office presented a modified version of the project, placing it in the sphere of the Rural Development Program. This field of action opens a window for expanding coverage of IICA's work to other areas of the country. External resources have been acquired to develop new projects and carry out preinvestment activities for the consolidation of agrarian reform settlements. The technical coverage of this project made it possible to develop mechanisms for project follow-up and evaluation. A project is being prepared for credit and agricultural development in an irrigated zone of the southeastern region. It is particularly important because of its potential for acquiring funding from IFAD, which has already supported the preinvestment phase.

Activities in the area of natural resources included completion of a study on the operation and follow-up of the Valdesia dam system, based on modifications introduced during tripartite meetings of INDRHI, IICA and Colorado State University (CSU). This project produced 48 technical documents, to the direct benefit of the counterpart and the participants in training courses given throughout the study.

During 1986, IICA worked to support the plan for protection of the Blanco River watershed. The project was fully financed by the Dominican Electricity Bureau, with assistance by specialists from Spain. The key to this project was that it approached conservation problems with a view to improving production systems presently used by campesinos. The project has shown that it is possible to transfer improvements if emphasis is placed on farmer organization in rural areas.

Support for the National Extension Service *

The technical cooperation project to improve extension services in the Dominican Republic began in late 1985 with a specific request by the government to implement a new agricultural extension system.

* Please refer to footnote on page 10.

IICA prepared a diagnostic study and, in 1986, developed a technical cooperation project. It focused on the official extension system, but took a comprehensive view of the national system for generation and transfer of technology.

The project has been based on several fundamental concepts: a) generation and transfer are part of an interrelated system, based primarily on a common objective and coordinated operations; b) the objective of this system is to help increase technology levels and modernize production units as a way to improve the country's agricultural development; c) the generation and supply of technology should be appropriate to the real demand for technology in commonly used production systems; d) the production unit should be viewed as a complex, multidimensional system with its own objectives, limitations and resources; and e) different technological situations must be recognized, as they require unique, specialized research and extension actions.

These ideas were the basis upon which a technical cooperation project was built in 1986. The core of the project was: a) support for the design and application of appropriate methods for improving the process of technology transfer; b) support for implementing a national extension system and for training its technicians; and c) support for reorganizing the national research system.

After the change of government in 1986, technical cooperation

was reoriented and a new project was designed for the 1987-89 period. This change introduced integrated work with the generation and transfer system, at the specific request of the new authorities.

A frame of reference was developed during this new stage to guide the relationship between research and extension. A new model for technology transfer is now being developed, based on the participation of many different institutions. This model, at the request of the agricultural bank, has provided a basis for drawing up a proposal to organize and operate technical assistance for an agricultural credit project submitted to the IDB.

IICA's proposals to adapt technology to the demands of major production systems were adopted by new authorities of the national research system. Thus, IICA is helping to measure demand and identify research projects to be developed as of 1987 to satisfy this demand.

The new IICA project has been reformulated on the basis of results obtained. It is consistent with requests for technical cooperation received from new authorities and with IICA's new Technology Generation and Transfer Program. It will provide support actions for the research subsystem, the extension subsystem, the relationship between research and extension, and the formulation of technical and financial support projects.

DOMINICAN REP. Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Strengthening the System for Conservation and Management of Renewable Natural Resources	Improve operating mechanisms of the system and train personnel.	Seminar-Workshop on irrigated agriculture. Technical exchange visits to Colombia. Technical economic proposals for the Nizao Project follow-up and evaluation unit. Preparation of manuals on agro-forestry management of hill-sides.	IICA/ INDRHI	9 500	84 538	94 038

DOMINICAN REP. Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Protection Plan for the Watershed Influenced by the Blanco River Hydroelectric Project	Contribute to the protection, use and management of renewable natural resources in the watershed.	Technical unit expanded and operations improved. Demonstration plots and nurseries installed. Methods for developing hill-side soils. Preparation of technical manuals. Civil hydrology projects carried out.	IICA/ DOM. ELECT.	44 723	0	44 723
Support for Improving Livestock Production	Improve double-purpose livestock production, dairy production, and incentives for raising small animals.	Programs to process information, technical equipment and units in DIGESA and CENIP. Model tested for raising double-purpose livestock. Demonstration model for specialized milk production in Monte Plata. Training for CENIP technicians, producers and agents in the process of planning, preparing extension materials, and testing.		0	64 800	64 800
Study of Protection for the Water Resource System of the Nizao River Watershed and Valdesia Dam Systems	Design a protection system for the water resources of the watershed.	Project completed in September. Study of the operation and follow-up of Valdesia dam system completed and delivered.	IICA/ INDRHI/ CSU	71 971	0	71 971
Pilot Project for Administration, Operation and Maintenance of an Area of the Northern Yaque Irrigation Project.	Encourage rural development in the area.	Planning, programming and evaluation of the system.	IICA/ INDRHI/ IDB	185 598	0	185 598

DOMINICAN REP. Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Support for Developing the Extension Service	Implement and consolidate an agricultural extension system.	Support for the design and application of methods to improve the technology transfer process. Support for implementation of the national extension system. Support for reorganization of the national extension system.		0	69 500	69 500
Consolidation of the Planning and Implementation System of SEA Policies and Services	Apply methods adapted to conditions in the country. Train technical personnel from the IFAD II Project.	Work begun on introducing control mechanisms and generating technical guides by zone. Procedures in operation for credit and technology transfer.	IICA/SEA	5 000	67 610	72 610
Consolidation of Marketing Services	Strengthen integrated food planning operations of ONAPLAN, SEA, INESPRES and ADN. Define and formulate development plan for food system in the National District. Develop critical mass of human resources in marketing. Develop CENSERI. Strengthen operations of integrated food planning.	Inter-institutional committee for developing national food system restructured. Technical proposal prepared for improving markets in Santo Domingo. In-service and workshop training for technicians. Organization and plans prepared for CENSERI. Support for BACRICOLA in reviewing the marketing subprogram.		0	75 800	75 800

EL SALVADOR

IICA has been active in institutional strengthening of the public agricultural sector in El Salvador, which is responsible for providing services to rural dwellers. It has also helped develop and implement projects to support Stage III of the agrarian reform process and has worked in planning, setting up, and evaluating self-managed participatory rural production enterprises. It has provided training in community organization for production to support the development of self-management in agrarian reform cooperatives.

Project action

IICA worked in planning and programming of operations for better coordination of farmer services. It targeted the Sectoral Planning Office for Agriculture (OPSA), the Center for Fishery Development, the Center for Livestock Development and Regions I and III.

Eight training courses were planned and implemented with the support of managers and heads of the planning units of Region I and III. In these courses, technicians and officials from the regional agencies learned to apply the methodology known as the Management Operating Summary (MOS). The five Region III courses were also attended by campesino leaders. A total of 15 of these leaders and 212 government personnel from different specializations and professions were trained.

Six department-level work groups were formed and have received continuous in-service training. Presently, there are 29 trained technicians who have been using the methodology.

Similar actions were initiated to strengthen the operational planning of the Center for Fishery Development (CENDEPESCA). A five-day workshop was planned and conducted for 31 specialists, and high-level authorities from the Center were present to analyze problems and propose alternative solutions. In addition, a group of five technicians was selected to continue with in-service training.

Technical cooperation with OPSA included advisory services in operational planning, especially for the Division of International Cooperation, the planning units of CENDEPESCA, Region I and Region III, and managers from the two regions.

Within the context of community organization for production, the following actions took place:

- A survey was conducted to identify current problems faced by production cooperatives; a seminar for 56 leaders was held to analyze problems, set priorities, and find solutions; this led to a plan of action to support the organization of production cooperatives.
- With IICA's input, five cooperatives developed organizational charts. A manual was prepared to train leaders sitting on administrative councils. This manual, focusing on the organization and operation of administrative councils, was conceived as a tool for on-going support of the work of these leaders. A second training aid was prepared for use by members of the vigilance committees of production cooperatives. This manual focused on the organization and operation of the committees and will be used for on-going training.
- Two courses were held on the organization and operation of administrative councils. These courses trained a total of 54 farm leaders. A similar course for members of vigilance committees was attended by 38 committee members and technicians.
- These instruments, designed to strengthen associative and entrepreneurial management, are used in the countries to train leaders, members, trainers, and technical personnel attached to cooperatives. A project to attract external funding was developed to cover expenses for training an estimated 27,500 leaders and members of agrarian reform cooperatives. The project will focus on community organization of production to encourage self-management in agrarian reform cooperatives.

An agreement was signed by IICA and the Bank for Agricultural Development in El Salvador (BFA) for a short-term action. This was the basis for three courses to train BFA technical personnel in appraisal of agricultural and agroindustrial assets, project management, and agricultural product and input marketing.

The joint PROMECAFE/ISIC (Salvadorean Institute for Coffee Research) project continued in its work to control the rust disease. The ISIC Plant Pathology Department concluded three projects initiated in 1983 to develop rust control measures for use by small-scale producers. Three more projects are expected to conclude in March, 1987.

Work conducted to date has demonstrated that rust control, if conducted properly, need not be expensive. A new Project was initiated to develop methods for evaluating spray pumps used on coffee plants.

PROMECAFE provided scholarships for 19 ISIC specialists to attend regional courses given in Panama, Guatemala and Honduras. A national-level course was held in El Salvador on management of numerical information, statistical data, and experiments. The course was attended by 35 ISIC specialists.

Strengthening the operating capacity of Institutions Responsible for Encouraging Agricultural Production *

One of the project's most important goals is to strengthen the rural production structure by promoting self-managed, participatory business practices among small-scale farmers.

Work on the project began in 1984, and the main purpose has been to use the "SIMPLE" method for developing methodologies and instruments appropriate to conditions in El Salvador. Extension agents were trained, and rules and procedures were developed in a participatory fashion to govern the working approaches. Support was provided for evaluation studies in significant subject areas.

Results achieved in 1986 are summarized as follows:

a) Basic methodology

Methods were developed and approved for planning, integration and evaluation of crop production, livestock production and farm enterprise management.

b) Technological guidelines

Production modules were prepared as technological guides for 86 basic crops, commercial products, industrial crops, tradi-

tional and nontraditional lines and livestock. These guidelines introduce production processes with improved technology adapted to the country, using basic replicable components in the standard production process. These documents have served as the basis for several production plans developed by trained farmers and are useful for training and follow-up of these production plans.

c) Classroom training

Thirty classroom courses were taught on planning, implementation and evaluation of agricultural and livestock production, with the use of farm-level administrative and production plans. These courses trained an estimated 1,021 people, including cooperative members, technical advisors, cooperative managers, and extension agents.

d) Production plans

A total of 149 cooperatives were trained in the "SIMPLE" system, and 126 cooperatives reported that they had completed their production plans using the system. Of these, 39 obtained and managed credit prior to planting.

These cooperatives from the agrarian reform sector are a major source of production, family income and rural employment.

Information available on cooperatives with production plans and on follow-up provided by the "SIMPLE" system indicates the following: 27,384 manzanas planted to 12 basic and commercial crops; planning completed for 68.7 million colones; approved credits for 47.7 million colones in six banks of the national banking system; and 2.5 million colones of credit being processed. Direct benefits accrued to 9,146 cooperative members, 8,939 families and 61,628 individuals.

Considering these positive results, the Salvadorean Federation of Agrarian Reform Cooperatives (FESACORA) obtained funding in November, 1986 from the Inter-American Development Bank (IDB). The nonreimbursable fund will be used in part to train member cooperatives in the use of the "SIMPLE" system.

* Please refer to footnote on page 10.

EL SALVADOR Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Strengthening the Operating Capacity of Institutions Responsible for Encouraging Agricultural Production	Provide instruments for planning operations of service delivery to farmers. Provide advisory services to OSPA and planning units in operational planning. Support farmer cooperatives in community organization for production.	Specialists from Regions I and III from CENDEPESCA trained in methodologies and application of the MOS. Training provided in the use and development of the "SIMPLE" system, especially for the national technical team and members of farmer federations and cooperatives. A plan of action prepared and applied in five cooperatives to support production organization. A manual prepared on the organization and operation of vigilance committees.		0	225 700	225 700

GUATEMALA

One of the main causes of the stagnation of Guatemala's agricultural sector is the low level of technology used in the country. With the exception of rice, yields for major grains have been low and marketing, inadequate. IICA has supported agencies for research and technology transfer, strengthened institutional systems for food supply, credit and marketing, and helped improve the capacity of the Ministry of Agriculture, Livestock and Nutrition (MAG) to implement mechanisms for sectoral policy. The Institute has also supported animal health through projects to reduce post-harvest losses in nontraditional agricultural products, financed

by the Inter-American Development Bank (IDB) and the International Development Research Centre (IDRC). Guatemala, like most countries in the region, needs to increase agricultural exports. IICA, with funding from IDRC, has supported the development, management, and implementation of projects to improve double purpose livestock.

Project action

A system for coordinated action was developed by the Public Agricultural and Nutritional Sector (SPADA), in support of public institutions for agriculture and agricultural development. The system, which was designed for coordinated provision of services to farmers, has made it possible for guidance mechanisms and their

instruments to be fully utilized by key participants in Region VI. These instruments reflect the opinions and carry the commitments of directors, specialists and farmers as regards the objectives of agricultural development.

IICA has helped SPADA institutions in Region VI practice dialogue and consensus to focus efforts on identifying and interpreting problems affecting agricultural development in the region. It also helped the institutions in the region learn to design and implement consistent, systematic actions to solve these problems.

The experience gained indicates that with the guidance mechanisms operating in Region VI, SPADA will have the capacity to provide farmers with effective, integrated, and timely agricultural services.

The most significant overall results generated by the project can be classified into three broad categories as follows:

- a) Improved effectiveness of regional directive tasks;
- b) Development and implementation of procedures and instruments to be used in participatory regional planning (concentrated both vertically and horizontally) by the public and private sectors for operating guidance mechanisms;
- c) Improvement of the capacity of Region VI technical personnel in analysis, advisory services and decision making to support project implementation in Region VI.

The direct beneficiaries of project training include 88 specialists and regional directors and 157 small farmers. Moreover, direct technical support was provided to 133 specialists and regional directors and 135 small farmers.

The project to support technical production and organizational training for personnel of the public agricultural sector and members of farmer organizations fits into the rural development process. During 1986, the project provided training in preparing and implementing agricultural projects, preparation of diagnostic studies, and production and organizational plans for farmer enterprises.

An estimated 244 MAG specialists, mostly from the General Directorate of Animal Health and Plant Protection (DIGESA) and the National Forestry Institute (INAFOR), and 584 farmers from different regions throughout the country participated in different training activities provided by the Institute, including courses, experimental laboratories, and direct technical support.

In addition to direct training actions, the project produced seven agricultural project profiles, a manual on agricultural production plans, four sets of proceedings from experimental laboratories, and a document analyzing the agricultural sector in Guatemala.

IICA prepared a project as part of its technical cooperation services to the Animal Health Program (PRODESA), and the work is now taking place in Guatemala with IDB financing.

IICA's cooperation was implemented by staff members and specially hired consultants. Areas of action included health campaign management, epidemiology, laboratory management, biostatistics, and administrative and financial systems. Assistance in these areas took the form of training, advisory services in methodologies, and design of mechanisms for evaluation.

During 1986, six courses were taught on the following subjects: principles of epidemiology; principles of biostatistics and information systems; administrative principles and practices; recent development in brucellosis and bovine tuberculosis; rabies and bat control; and communications. The courses were attended by a total of 118 persons, including veterinarians, animal production specialists, administrators, agricultural technicians, public relations officials, animal health aides, and administrative and livestock assistants.

Similarly, eight professionals from different areas of specialization were selected and sent abroad for 25 months of training. Publications included 13 training documents, six general information documents, three manuals, and one scientific publication.

Finally, eight short-term actions took place in marketing and food security and support for the TRIFINIO Multinational Project (Integrated Development Plan in the Border Zone of Guatemala, El Salvador and Honduras).

Improving double purpose cattle production systems *

In accordance with the agreement signed by IICA and IDRC, the Guatemalan Institute for Agricultural Science and Technology (ICTA), San Carlos University (USAC) and IICA are conducting research on double purpose cattle production systems in the country.

* Please refer to footnote on page 10.

The project is aimed at small-scale beef and dairy farmers from two regions in Guatemala. It identifies commonly used production systems in the regions, points out limitations, and puts forth appropriate solutions, which are then farm tested. The project is currently making plans to send Guatemalan scientists abroad for training in production systems research.

Diverse activities took place during 1986. The project conducted surveys in the municipalities of Quezada, Jutiapa and Jalpatagua to identify prevailing production systems in these areas. The surveys led to the development of analytical methodologies for utilizing this kind of information. In addition, a process began for codifying and storing statistical information, adapting it to the use of sophisticated statistical analysis programs. The project has also continued to implement its dynamic diagnostic process in selected plots on the southern coast. The survey covered 120 cases and the

dynamic diagnostic study, 46.

The phased research process continued to evaluate animal feed germplasm in Cuyuta and Jutiapa, during both the dry and rainy seasons. Work continued with the evaluation of harvest grasses as a feed supplement during the dry season. The use of native feed corn was studied in the eastern zone.

The project's direct beneficiaries included 12 specialists from ICTA, seven specialists and a student from USAC, and 14 specialists of the General Directorate of Livestock Services (DIGESEPE). Indirect beneficiaries, mostly small-scale farmers, are estimated at 3,500.

During 1986, the project held five courses and technical meetings attended by specialists and students from DIGESEPE, ICTA and USAC. Similarly, seven project specialists participated in training events abroad.

GUATEMALA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Improving Double Purpose Cattle Production Systems in Guatemala	Improve production systems through improved management and introduction of harvest grasses.	Methodology designed for the analysis of information. Dynamic diagnosis prepared of land plots on the southern coast. Evaluation performed of harvest grasses.	IICA/IDRC*	112 969	25 169	138 138
Technical Cooperation for Institutional Strengthening of Animal Health Programs	Provide technical cooperation to the Animal Health Program (PRODESA).	Training provided in the country and abroad, advisory services given in methodologies and mechanisms for evaluating the program in terms of epidemiology, biostatistics, laboratory management and administrative systems.	MAGA/ BID	515 847	0	515 847

* CIID, CRDI and IDRC are the acronyms for this Center in Spanish, French and English, respectively.

GUATEMALA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for the Development of SPADA's Coordinated Action Systems to Provide Integrated Services to Farmers	Help SPADA institutions in Region VI work together to identify problems; design and implement solutions to these problems.	Effectiveness of the regional directive tasks improved. Procedures and instruments for participatory regional planning developed and implemented. Capacities of technical personnel from Region VI improved.		0	69 300	69 300
Support for Technical, Production and Organizational Training of Officials from the Public Agricultural Sector and Farmer Organizations	Cooperate in the socioeconomic development of farmer production enterprises.	Socioeconomic research conducted in communities and farmer enterprises. Training provided for technical specialists and farmers by way of experimental laboratories. Agricultural projects and production plans designed.		0	125 900	125 900

HONDURAS

The core of the problem affecting the agricultural sector in Honduras is the low level of income and consumption by the majority of the population. This leads to low use of technological inputs and a high unit cost for production. Furthermore, agricultural assets, including land, capital and, to a degree, public investment, are distributed unequally. IICA, interested in solving these problems, has strengthened the research and extension program of the Secretariat of Natural Resources (SRN) and has supported national programs for integrated rural development.

Project action

The project for institutional strengthening of national organizations working with rural family programs continued to consolidate the Honduran Association for the Development of Youth and Rural Women (AHDEJUMUR). The purpose of working with AHDEJUMUR is to support the country's efforts to include rural women and youth in the market economy and obtain better income and consumption levels for this population group.

The Cooperative Program for the Protection and Modernization of Coffee Cultivation (PROMECAFE) assisted the country by training technical teams in such important matters as rust and berry borer control, and technology transfer to small-scale producers.

IICA cooperated with the SRN in programming and carrying out activities of research, extension, development and animal health. For this purpose, it helped strengthen livestock research programs, reorganize the Secretariat, and formulate the third phase of the research and extension project to be submitted to the IDB. It also helped prepare the second phase of the Western Region Development Program (PRODERO). Honduras received broad cooperation in animal health through training for technicians abroad and with the assistance of consultants in laboratory control of rabies.

A study was performed on the credit situation of the National Agricultural Development Bank (BANADESA), and alternatives were proposed for the paying of loans and overall policies to guide credit placement. Major efforts were made to provide campesinos benefiting from the agrarian reform process with training in administrative matters.

Support for Institutional Mechanisms to Promote Agricultural Exports *

The specific objectives underlying project activities during 1986 were to formulate a program for promoting nontraditional agricul-

* Please refer to footnote on page 10.

tural exports and to strengthen the technological and commercial information network in this area.

Under both headings, promising results were obtained. A first version of the agricultural export program is now available and includes projects for information, outreach, production, directed credit, marketing and transportation. This program will provide government agencies and the private sector with measures to be adopted for increasing the country's export capabilities. IICA also contributed to strengthening the institutional system for organizing export-related agencies and establishing closer working ties with the private sector.

Work to strengthen the information network included a series of activities for collecting basic information from primary and secondary sources and through surveys. The final result will be a collection of easily accessible information on markets, organized marketing processes and storage. Work was also done to train staff members in compiling, interpreting and using information. Activities were carried out for dissemination of information, and as a final result, a project was established for strengthening the technical and commercial information system.

This project was carried out with the assistance of personnel from the Technical Secretariat of the Higher Council for Economic Planning (CONSUPLANE) and the Ministry of Natural Resources. Support was also forthcoming from other national and international agencies.

This action is a form of support for the government's plan to declare 1987 the "year of exports."

HONDURAS Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for Institutional Mechanisms to Promote Agricultural Exports	Formulate a program for non-traditional agricultural exports. Strengthen the technological and commercial information network in the area of non-traditional exports.	Preliminary version of program projects. Surveys conducted and information collected in various institutions related to this area.	IICA/ BANADESA CONSUPLANE	21 557	93 714	138 928

HONDURAS		Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
Project or Action	Source			Amount	IICA	Total	
Institutional Strengthening of National Organizations Working in Rural Family Programs	Help national agencies working with rural women and youth to improve services and develop mechanisms for training and for including women in development processes.	Private institutions organized to coordinate technical and financial resources with INA and SRN in specific programs oriented toward rural women and youth. Seventy technicians trained in rural work projects.		0		51 300	
Support for SRN in Programming and Implementing Activities for Research, Extension, Development and Animal Health	Help generate institutional capabilities for research and technology transfer through a policy for personnel development and methodological improvement of programs.	Cooperation given to the new INTAGRO organization. Greater technical and operating reserves now available in research and extension programs through investment projects. Programs provided with a program framework. Implementation of PROFOGASA begun.		0	134 100	134 100	

MEXICO

One of the goals of the agricultural sector in Mexico is to achieve self-sufficiency in the production of basic foodstuffs and to increase the external trade of agricultural items. The drive to meet these goals is threatened by the drop in private and social investment in rural areas. As a result, the sector has little capital, and mechanisms for institutional coordination of research, extension and technology generation and transfer are inadequate. IICA, interested in helping solve these problems, has supported the Secretariat of Agriculture and Water Resources (SARH) in improving technological and operating capabilities to solve plant health problems in the General Office of Plant Protection, Animal Health and Forestry (SPAF) and the National Institute of Agriculture and Forest Research (INIFAP). IICA has also assisted the General Directorate of International Affairs of SARH in formulating and carrying out marketing policies. It has supported the formulation and evaluation of investment projects submitted to international agencies for financing to solve the problem of reduced private and social investment in the rural areas. Finally, IICA has assisted in the identification, preparation and management of projects at the state level, so as to improve mechanisms for institutional coordination of research and extension.

Project action

IICA was active in plant protection, supporting INA-Tropicos in programming, implementation and evaluation of research projects in plant pathology. Technical assistance and advisory services were lent to plant pathology programs of INIFAP-Southern Zone, for which 22 documents were published containing analytical studies of new research proposals or projects under way. Support was provided in coordinating activities with other institutions (INMECAFE, CONAFRUT, TABAMEX, the Directors of Plant Protection, and CONACA) also working in technology generation and transfer to solve health problems in tropical crops.

Training was provided to 25 professionals from INIFAP, the Directorate of Plant Protection and INMECAFE, with an emphasis on fungicide applications for coffee rust control. This training took

place during a theoretical and practical seminar held with assistance from the Costa Rica/Federal Republic of Germany Agreement (MAG/GTZ) for plant protection.

Two INIFAP researchers were trained in laboratory and field techniques appropriate for surveillance and diagnosis of plant diseases. A researcher from the INIFAP Coconut Program was trained in the collection, identification and cultivation of mushrooms potentially useful for biological control of mites. Research was also carried out on possibilities for biological control of the carrier of the lethal yellowing disease of coconut, a problem which threatens to spread to crop zones in the Gulf of Mexico and the Pacific coast.

In July, 1986, a second workshop in Tuxtla Gutierrez was held on tropical plant pathology, in cooperation with the Autonomous University of Chiapas. The event was attended by 35 professionals from INIFAP, the Directorate of Plant Protection and UACH, and two sessions were presented on control of cacao and soybean diseases.

Dissemination activities included publication of numbers 2 and 3 of the Bibliographic Bulletin on Diseases of Tropical Crops. These were published in conjunction with the Technical Information and Documentation Unit of CIAGOC. The CIDIA/Orton Library of IICA and the libraries of INIAP (Ecuador), ICA (Colombia), and EMBRAPA (Brazil) cooperated in compiling 21 brief bibliographies and 60 technical papers on problems of plant pathology and tropical crops; 325 copies were given to libraries and researchers in the CAE of INIFAP-Southern Zone.

A project to strengthen capabilities of INIFAP for planning research on animal feed and livestock production produced teaching materials on planning and hypothesis testing in agricultural research. Discussions were held with INIFAP authorities on the use of the methods and training material for courses.

In Torreon, guidelines were developed for research on harvestable grasses, and studies of tropical forage were planned in Veracruz. A methodological approach was developed for programming research on tropical forage.

IICA promoted plant protection as a part of production development activities of the General Planning Office of SARH by giving training to the technical and managerial group responsible for the strategic project to develop corn production. An average of 80 technicians attended. In-service training and seminars were given

on the use of microcomputers in technical tasks, to support the Office for Sectoral Policy and Evaluation, including the development of a data base, the use of spreadsheets for project preparation and technical reports, and the use of statistical programs.

Technical support activities included preparation of three projects identified as having high priority for PRONADRI, with strategic plans for developing corn, bean and sorghum production. Technical support was also provided for organizing district workshops on preparation of the projects to support corn production and on generating an agricultural data bank with state-wide statistics. Several studies on corn, beans and sorghum resulted.

The development of methods has been useful for identifying and preparing projects. Results included preparation of a documented guide for drafting district projects on corn; a second guide was prepared on analysis of marketing in project development, while a third covered identification of production situations.

Institutional support of SARH included cooperation in preparing a base document on the SARH decentralization project, requested by the General Directorate of International Affairs. Methods were developed for a technical assistance project in research, organization and training of human resources for development. Advisory services produced several institutional diagnostic studies and a classification of production units.

Field visits were made for collecting information on natural resources, socioeconomic factors, and institutional affairs in four development districts.

An intensive course on preparing agricultural development projects was attended by 22 technicians from the General Office of Agricultural Standards and the General Office of Farmer Organization. At the request of the External Credit Office, support was given to the Operating Program for Rural Development Districts (PRODER).

The final text of a project for technical assistance, organization, training and research was presented by SARH to the World Bank for funding.

A short-term action was carried out to support SARH in its administrative decentralization process. Personnel assigned to border zones received technical assistance in international trade, and a course was given to personnel from the Xochimilco

Delegation on agricultural extension in suburban areas, and was attended by 34 people.

Support for the General Office of International Affairs of SARH in Formulating and Carrying Out Marketing Policies*

This project achieved several important results in 1986 in the area of marketing. Criteria were designed for identifying agricultural and forest projects to be promoted for export. A policy document was prepared on selecting products for export, and a proposal was delivered on the market outlook for selected products.

The activities of the Committees for Outreach and Border Development (COPRODEF) were reviewed. A technical assistance and outreach proposal was designed for foreign trade of agricultural products, and IICA helped formulate institutional action to encourage exports (such as a program for exporting certain types of poultry).

A marketing course was organized for 22 technicians from the Office of Trade Relations, and an audiovisual presentation was prepared for this purpose.

A manual describing administrative procedures for import and export of agricultural products was reviewed, as were the procedures for border zones and free zones.

IICA cooperated in organizing the First Regional Seminar on Promotion of Agroindustry Products, held in La Paz, Baja California, with an emphasis on fruit and vegetable exports. Work also continued for strengthening the fruit and vegetable market information system operated by the General Office of International Affairs. For this purpose, the USDA data bank was used for conducting an analysis of the fruit and vegetable market information system.

The Third Seminar on Administration, Projects, Marketing and Integrated Rural Development was held in Saltillo, Coahuila. IICA cooperated in preparing a summary document of the First Seminar on GATT in the Agricultural Sector of Mexico. Finally, methods were developed for institutional analysis of foreign trade in Mexico, and the study was brought up to date.

* Please refer to footnote on page 10.

MEXICO Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Cooperation SARH/IICA to Strengthen State-Level Planning Activities	Support transfer of methods for identification, formulation and evaluation of investment projects.	Cooperation provided in formulating a strategic project to promote corn production. Draft prepared for project on bean strategy. Data bank developed.	IICA/SARH	8 132	39 388	47 470
Strengthening the Technology Generation and Transfer System	Support INIAPE in improving technology generation and transfer services.	Project formulated for technical cooperation with INIAPE.		0	38 500	38 500
Improvement of Milk Production in Mexican Tropics	Improve milk production systems.	Support provided to mechanisms for operation and planning of production systems. Analysis of livestock problems and proposals for research programs and infrastructure. Staff training.		0	65 000	65 000
Support for General Directorate of International Affairs of SARH in Formulating and Implementing Marketing Policies	Cooperate with the Directorate of Commercial Relations in the outreach program for agricultural and forest exports.	Program for identifying export products. Staff training. Improvement of manual on administrative procedures for import and export of agricultural products. Cooperation in strengthening the fruit and vegetable information system.		0	85 900	85 900

MEXICO Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for INIA-Tropicos in Programming, Implementing and Evaluating Phytopathology	Strengthen institutional capabilities of INIA.	Technical assistance for INIA/Southern Zone. Training of plant pathologists in INIA/Southern zone. Dissemination of information generated or collected.		0	70 500	70 500

NICARAGUA

The structural changes recently undergone by Nicaraguan agriculture have been followed by a stage of consolidation of cooperatives and government enterprises. One of the major difficulties impeding this consolidation is the lack of managerial skills for making the best possible use of economic and productive potential. IICA helped tackle this problem by supporting the Ministry of Agricultural Development and Agrarian Reform (MIDINRA) in its program of training and management for campesino organizations. This support was backed with external resources.

A major problem in the agricultural sector of Nicaragua is the shortage of basic grains, vegetables, edible oils and livestock products. IICA is providing MIDINRA with technical cooperation for organizing and managing agricultural technology generation and

transfer. Domestic marketing is also subject to distortions, with demand excessive and prices high, and a parallel market has emerged. To solve this problem, IICA supported the Ministry of Domestic Trade (MICOIN) in establishing a national program for training, research and information for domestic markets, and assisted MIDINRA with institutional strengthening of animal health services.

IICA has been supporting MIDINRA in defining and implementing agricultural sector policies to help prevent duplication in setting regulations and to solve shortcomings in the sectoral planning system.

Project action

Activities for technology generation and transfer have taken place horizontally, with the establishment and implementation of mechanisms for cooperation with EMBRAPA in Brazil and INTA

in Argentina. IICA also supported various technical teams in assisting with training activities in other countries. It provided administrative and logistic support and held numerous meetings with national authorities. Field visits provided follow-up for the different teams.

Technical support missions were carried out, and of special mention were the following advisory services for soybeans, sunflower crops and basic grains.

Soybeans

- Various state enterprises received assistance with commercial soybean production. One such enterprise was the national soy program, covering 9,920 manzanas of soybeans. Cooperation was given in establishing experiments to improve cultivation, including sowing times, density, and other variables.
- Integrated pest management for soybeans included ongoing evaluation of the different insect populations present in the soy crop. Authorities received recommendations for early control, and a number of experiments were established for optimizing the use of chemical and biological agents for integrated pest control in soybeans.
- Areas planted to soybeans were examined to select those having the best characteristics for producing seeds, as part of an effort to improve seed production and processing. Advice was given on installing equipment for processing and storing seeds from the 1986 harvest. The seed harvest has already been prepared for summer of 1987, and a small seed laboratory was set up, with training provided to national personnel.
- Evaluation of soybean varieties was based on a field study used during the 1986 soybean harvest, with recommendations on new varieties that could be used in the future.
- Recommendations for 1987 included a study of soybean behavior in commercial plantings, among others.

Sunflowers

- Socioeconomic studies were carried out on the possibilities for establishing sunflower crops in Nicaragua.
- Research and promotion of production in dry zones were the focus of agronomical recommendations for establishing sunflower crops in Nicaragua.

Basic grains

- As part of research and organization of seed production and processing, recommendations were made for establishing a national seed production system for basic grains.
- Follow-up was given to a program for genetic improvement of corn and sorghum, carried out by MIDINRA's Office of Basic Grains.

Finally, IICA cooperated with training programs on seed production and processing in other countries, one in the National Grain Storage Center in Viçosa, Brazil, and the other, a technical observation mission to Argentina to examine agricultural development experiences in the dry tropics.

Agroclimatic studies and agroecological crop zoning were the focus of cooperation provided to the Nicaraguan Institute of Land Studies (INETER), to help it develop the technical capabilities needed for imparting new methods of agroecological zoning.

One of the results of this action was the preparation of a data bank on daily weather changes (maximum and minimum temperatures, sunshine and precipitation) to be used in zoning studies. Fully 85 percent of the information has now been computerized, using forms developed by an advisor from the World Meteorological Organization (WMO). This information needs to be reviewed and checked using programs for standardizing the data series.

Various computer programs were written for putting this data base (that includes frequency analysis of rainfall and statistical analysis of precipitation by decade) to use. The programs were written in FORTRAN IV. Lectures were given to train personnel from the Agrometeorology Department on techniques of zoning and agroclimate analysis. In-service training was also provided.

An agroclimatic study was performed in Region II. This region, comprising the departments of Leon and Chinandega, holds great importance for agroindustry. The study produced detailed information on water conditions, the beginning of the rainy season, determination of the potential crop period, the effect of temporary dry periods, climatic water balances, and calculation of potential evapotranspiration. The daily records from 16 meteorological stations for the 1970-1982 period were used for this purpose. The results will be helpful in determining the most appropriate dates for planting crops in the zone, especially cotton and sorghum, and

for studying the possibilities of introducing new varieties and crops such as soybeans. The final document includes 12 maps showing isolines for the region on a scale of 1:1,000,000.

Cooperation was also provided in the fields of policy analysis and decision-making with the MIDINRA General Office of Economics. The Ministry of Education (MED) received assistance in establishing school cooperatives for production and services in agricultural training institutions. IICA worked with MIDINRA to review the curriculum being offered in collectives for continuing education.

Technical Cooperation with the Ministry of Domestic Trade in Agricultural Marketing*

The objective of this project was to contribute to the preparation of marketing programs that would encourage food production and guarantee markets and reasonable prices for farmers. Distribution systems were also needed to make products accessible to the low-income urban population.

The project was designed to cover both economic and technological facets of marketing. Four activities were designed in the following areas: compilation of basic information, definition and conceptualization of standards for technical matters, organization and improvement of storage, and human resources training.

The project worked directly with the Office of Economic Studies of the MICOIN General Directorate of Planning, the ENABAS Division of Technical Cooperation, and the Offices of Planning, Organization and Methods of the different agencies included in the ministry.

* Please refer to footnote on page 10.

The project yielded several results during 1986. Methods were developed for receiving and implementing storage silos in Jinotepe, Masaya and Santo Tomás, and for redesigning the storage silo in Rio Grande. A project was prepared for acquiring and setting up a storage silo and mill for rice in the Malacatoya region. This project provided the basis for obtaining four million dollars in credit from the RDA.

A project was prepared for remodeling the silo network in Region II, and presented to a commission of technical specialists from the government of Denmark to obtain funds. Finally, a course consisting of 240 classroom hours was taught to 20 administrators of storage silos.

In the field of marketing, a document was prepared on the contents and scope of the domestic market strategy for 1987-1990, and a project was written on establishing a domestic market training center in Nicaragua. Educational materials were prepared on agricultural marketing and have been distributed through training courses and to personnel working as project counterparts. Support was provided for courses on agricultural project preparation, given by the Nicaraguan Public Management Institute (INAP).

A training course consisting of 40 classroom hours was given for electrical and mechanical engineers working for the MICOIN project, to improve and expand storage systems. IICA provided a professor to give 40 hours of classroom instruction in agricultural marketing in the School of Agricultural Economics of the Autonomous University of Nicaragua.

Finally, support was provided to the Nicaraguan Association of Rice Producers in remodeling and operating hull-burning ovens for drying rice. IICA also worked with the reciprocal technical cooperation projects by providing advisory services to Panama, the Dominican Republic and El Salvador.

NICARAGUA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Cooperation with the Nicaraguan Instituto of Land Studies (INETER) to Strengthen Technical Capabilities for Zoning	Provide INETER with technical capabilities for preparing agroecological crop zoning studies.	Preparation of meteorological data base. Agroclimatic study of Region II. Training for personnel of the Agrometeorology Department.		0	25 900	25 900
Technical Cooperation in Agricultural Marketing with the Ministry of Domestic Trade	Help prepare marketing programs that provide producer incentives, markets, distribution systems and prices accessible to low-income populations.	Methods for receiving and implementing storage silos reviewed and implemented. Administrators of storage silos trained. Contents and scope prepared for the 1987-1990 domestic market strategy. Project on domestic market training center.		0	58 200	58 200
Support for MIDINRA in Defining and Implementing Agricultural Sector Policies	Cooperate with the General Office of Economics of MIDINRA in integrated policy analysis and decision making, in accordance with resources.	Generation of methods for formulating short-term instruments, and cooperation with organizational development. Policy analysis and generation. Personnel training.		0	54 700	54 700
Support for MIDINRA Technology Generation and Transfer Programs	Cooperate in the formulation and implementation of the National Program for Soybean Production and Development.	Joint actions taken with EMBRAPA (Brazil) and INTA (Argentina) to carry out technical support missions. Training activities begun.	Low Countries	90 000	40 000	130 000

PANAMA

IICA has supported livestock development, animal health and plant protection to help improve agricultural productivity. It has worked to strengthen the institutional system for rural development and has supported institutional organization for improving agricultural services and managerial skills. IICA has also assisted with the implementation of plans, programs and projects. Finally, in the field of natural resources, IICA aided the National Institute of Renewable Natural Resources (INRENARE) in consolidating its institutional structure.

Project action

Programs for plant protection were coordinated so as to reduce the incidence and prevent the spread of pests, diseases and weeds in crops. Assistance was given in preparing a plan for tracking coffee rust and berry borer in the country.

IICA cooperated in updating and harmonizing legal provisions and regulations for plant protection at the national and regional levels. It helped review all plant protection and related legislation and, with a legal advisor, to prepare a consolidated document for improving control of pesticide registration, marketing, and use. Finally, assistance was given in the technical review and approval of plant protection matters in the country.

A course was held on pest and disease management in agriculture. Training was thus provided to 30 staff members of the Office of Plant Protection and the Office of Agricultural Assistance of Panama.

IICA supported the National Directorate of Renewable Natural Resources (DNRNR) by giving a presentation on the situation of renewable natural resources in Panama during a seminar organized by the Ministry of Education. It was attended by 60 school directors.

A review was conducted of draft legislation on soil conservation and management in Panama. Initial work began on preparing a five-year plan for renewable natural resource development, in coordination with the Ministry of Planning and Economic Policy and INRENARE. IICA also supported INRENARE in preparing a document on policy options for making use of forest resources.

Finally, IICA worked in coordination with the National Directorate and Technical Committee of INRENARE to prepare a document on the foundations needed for planning the activities of the National Institute for Renewable Natural Resources.

A short-term action was carried out to help prepare a technical proposal for a project in livestock development, animal health and plant protection. IICA cooperated in a technical meeting for coordinating livestock development and attended a workshop organized by the Ministry of Agricultural Development (MIDA), in which it proposed methods for systematizing the National Service for Training, Technology Transfer and Livestock Assistance.

Strengthening Managerial Skills in the Ministry of Agricultural Development (MIDA)*

One of the objectives of this project for 1986 was to provide MIDA with a program for operating its Management Development Center to improve leadership. IICA contributed by training staff members in graduate courses on public management, so as to improve their technical skills and help them teach courses in the future Management Development Center. Instruction was also given on educational management to improve technical skills of MIDA personnel. In the same connection, IICA promoted the formulation of a project for remodeling the facilities in Divisa to be used by the center; this project was submitted to the government of Spain for funding.

It was then necessary to train staff members to work in the new center. For this purpose, workshops were held on management by objectives, financial systems, and institutional and financial analysis. Training abroad was promoted through courses and field visits.

A second objective was to strengthen the National Sectoral Planning Office (DNPS) in providing ongoing advisory services in decision-making for guidance of the planning and implementation process for the sector. IICA cooperated in carrying out a feasibility study on livestock development, animal health and plant protection, and participated in institutional and financial analysis for a project on this subject, to be submitted to the IDB for funding. Assistance was provided to the DNPS and the Directorate of Institutional Development in preparing their section of a five-year plan.

* Please refer to footnote on page 10.

This directorate also received advisory services in evaluating the institutional implications of MIDA's obligations to programs for structural adjustment, and exploratory studies were performed on managerial problems in MIDA. A complete management training program was then proposed for this ministry.

The third objective of the project was to strengthen the regional offices, and 20 staff members received training in this area. In conjunction with DNPS, trials were proposed at the regional level for the planning and implementation approach designed with the support of the Investment Fund Project (PFI).

Finally, in accordance with the need to introduce organizational and operating structures in MIDA and the sector, IICA cooperated with the Directorate of Institutional Development in establishing the following organizational changes: a) the Directorate of Livestock Production was created, and a plant protection team was set up and will be responsible for much of the program for livestock development, animal health and plant protection; b) an Office for Project Coordination and International Technical Cooperation was set up, responsible for project identification, formulation and promotion.

PANAMA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for the National Directorate of Renewable Natural Resources (DNRNR)	Strengthen DNRNR and train personnel.	Cooperation was given in soil management and drafting of legislation to create INRENARE. Publications and training.		0	72 500	72 500
Strengthening Managerial Skills in the Ministry of Agricultural Development (MIDA)	Provide MIDA and the sector with organization and operating structures, consistent with the development strategy, that will facilitate implementation of the investment program.	Cooperation with the Directorate of Institutional Development in organizational change and in preparing its section of the five-year plan. Designs implemented for finances, purchasing and training.		0	90 800	90 800

Caribbean Area

The nine IICA countries of this area are a diverse group of nations in the Caribbean speaking English (Barbados, Dominica, Grenada, Guyana, Jamaica, St. Lucia and Trinidad and Tobago), French (Haiti) and Dutch (Suriname). Most have inherited strong English customs, institutions and political systems based on the United Kingdom's parliamentary democracy. The linguistic diversity reflects the historical, social and political evolution of these societies.

Most of the countries, with the exceptions of Guyana and Suriname, located in the northeastern coastal area of South America, have historically maintained their closest ties with the European countries, in particular the United Kingdom, France and the Netherlands, and with the United States and Canada. However, in recent years efforts have been made to develop closer links with the neighboring Latin American countries, and these initiatives now are strongly supported and promoted by regional agencies such as the OAS, IICA and ECLAC.

These countries generally possess little land surface area, and their populations are small. In the early 1980s, the aggregate population in the countries of this area was estimated at 12 million people. The total land surface area is 44 million hectares, of which only a small portion, approximately 4.8 million hectares, is suitable for agriculture. Notwithstanding these limitations, the countries occupy a strategic location for geopolitical activities, international commercial development and maritime trade.

Economic Situation

Despite their many linguistic, cultural and political differences, the countries have a long history of common experiences in terms of their economic development. Plantation agriculture, specifically sugar cane, was the initial socioeconomic activity for all of them, and in many cases it is still dominant. The early development of plantation agriculture left a legacy of dualism between small-scale farming and export production systems which still characterizes agricultural organization and practices.

In recent years, a combination of endogenous and exogenous factors has contributed to a changing focus and direction of agricultural production and marketing. Increasing uncertainties in traditional marketing arrangements, fluctuating commodity prices,

increasing costs of imported production inputs and high internal labor costs are among the principal contributing agents. Of equal concern has been the dramatic increase in the volume and value of imported foodstuffs, currently estimated at nearly one billion dollars annually, and the countries' growing dependence on these imports.

Many of the countries are making significant advances in other sectors of the economy, such as tourism, light manufacturing and the service sectors. As these sectors expand and the output of traditional export crops continues to fall without corresponding increases in domestic food production, the share of agriculture in the GDP has declined. There are wide variations from country to country. In Haiti, for example, where the contribution of agriculture to GDP has always been high, the figure fell from nearly 50 percent in 1975 to approximately 32 percent in 1982. On the other hand, in Trinidad and Tobago, which has traditionally been less dependent on agriculture, the sector's contribution to GDP declined from 3.4 percent to 2.5 percent over the same period.

A number of governments have acted independently to adopt similar strategies for addressing some of the problems facing the agricultural sector. One such strategy is production diversification for domestic consumption and export, as a means of saving and generating foreign exchange. Emphasis is also being placed on activities such as fruit and vegetable production and improvement of the livestock subsector. The process of agricultural development, however, is held back by several factors. The small size of the domestic markets and production base preclude economies of scale, and productivity remains low with the continuing use of unimproved technological practices. Farm incomes suffer accordingly. Furthermore, the rural labor force continues to shrink and is becoming more costly, land resources are limited, and young people are increasingly inclined to urban and non-agricultural activities, to the detriment of agriculture.

Notwithstanding the very unfavorable circumstances of agriculture in many of the Caribbean countries today, governments fully recognize the sector's essential role and potential contribution to economic development and rural well-being. It is also recognized that the viability and economic growth of these countries are constrained by their small size. This fact has led governments to participate in a regional integration movement, especially the Caribbean Community (CARICOM) and common market, through

which efforts are being made to address shared problems at both national and regional levels. Within the framework of CARICOM, governments are committed to a major program for agricultural development as envisaged in the Regional Food and Nutrition Strategy, which identifies priorities and outlines plans and programs of national and regional cooperation for agricultural development.

The new Medium Term Plan recognizes the renewed efforts of Caribbean governments to restructure and revitalize agriculture and promote integration in the area, an approach which is considered the best path to development in the countries. Considering their small size, unique problems and recent entry into the IICA system, the Medium Term Plan proposes that special consideration be given to these countries.

The basic elements of the strategy being developed for the Caribbean Area include actions to integrate these countries more closely with the Institute and the Inter-American System, to promote closer collaboration with regional institutions, and to support area initiatives, particularly in regard to the Regional Food and Nutrition Strategy.

BARBADOS

Barbados, a small country with limited natural resources, continued to enjoy relative economic and political stability. The country nevertheless felt the effects of the global economic recession, which had an adverse impact on the so-called "foundation industries" of agriculture, manufacturing and tourism.

The new government of Barbados is pursuing a two-pronged policy to improve the efficiency of the sugar industry, while diversifying the economic base through expansion of the nonsugar sub-sector in both crops and livestock. The overall objectives are to increase foreign exchange earnings, raise domestic food production, encourage import substitution and promote the development of agroindustries.

IICA's actions in Barbados were in line with government policy. Major emphasis was placed on technology generation and transfer for fruit production and on preparing a national action plan for the development of fruit crops. Given the ecological conditions of Barbados, this poses a particular challenge, but initial efforts to increase fruit production were successful. Moreover, an integrated livestock project was developed, a marketing study was completed, and the Ministry of Agriculture was strengthened in the area of information systems.

Project action

A project was carried out to strengthen agricultural information systems for rural development in Barbados by establishing a data base for agricultural trade, using the SITC coding system. The base is now in operation in the Planning Unit of the Ministry of Agriculture. Microcomputer diskettes now contain 3,100 records on agricultural trade in the country. Information on imports, exports and re-exports is ready for retrieval, classified according to the following categories: cereal and cereal preparations; meat and meat products; fruits and vegetables; miscellaneous food preparations; dairy products and eggs; animal feed; coffee, tea, cocoa; fish and fish preparations; sugar, honey and sugar preparations; and live animals.

A fisheries data base was established for daily recording of 14 species in ten landing sites, and is now operating in the Planning Unit of the Ministry of Agriculture. The following species are included in the study: flying fish, dolphin, shark, various types of tuna, snapper and other varieties. The data base also covers four markets and six sheds: Pile Bay, Skeete's Bay, Conset Bay, Tent Bay and Half Moon (from January, 1984 to December, 1986). As a result of the project, 1,500 data records on fish landings have been stored on the microcomputer diskettes, and 4,100 data records on fish retail and wholesale prices have been filed.

A seminar/workshop was held on the introduction of micro-computers in the Ministry of Agriculture, and 62 people from different units of the Ministry attended. IICA also supported Program II in holding the "First Short Course on Communications and Technical Writing." The text was entitled "Elaboration and Presentation of Statistical Data," and 32 people were trained in the

use of statistical procedures for analyzing numerical data. Twelve methodologies were developed for statistical analysis and interpretation of field trial results using computer techniques.

A strategy was prepared and a plan designed for improving comprehensive marketing of nonsugar agricultural products. The purpose was to provide incentives for public and private sector activities in the local and export markets.

The Agricultural Marketing Service of the Barbados Marketing Corporation received technical assistance to facilitate systematic information gathering and use by computer. Results include the preparation of an agricultural marketing extension manual and an annotated bibliography on marketing of perishable products in Barbados. Training programs were also designed in this field.

A major study was conducted for developing a national agricultural marketing plan. This action was seen as a critical step for improving marketing actions underway in Barbados and has been assigned top priority by the government.

Another cooperation activity was training for staff of the Scotland District Soil Conservation Unit. The course introduced new technology for different levels, consistent with real development problems in the area. Eight technical courses were given to 94 people, including extension officers, technicians, farm managers, field workers and farmers. The courses, which were considered a success, covered the following subjects: technical writing, extension research and education, irrigation, animal husbandry, soil management and conservation practices, soil conservation and characteristics of Scotland soils; two short courses were given on fruit crops. Follow-up assistance and funding are expected in the areas of animal husbandry and irrigation.

The purpose of these courses was to ensure a maximum productive investment. Success of the training will be measured by the ability of the participants to apply the knowledge they acquired in the courses for improving their job techniques.

A feasibility study is being prepared for an integrated livestock study project, which will be submitted to the IDB for funding. A first draft of the project study has already gone to the Bank for comments, which are now being studied and will be included in the final version of the document.

Supporting Technology Generation and Transfer for Fruit Crop Production*

Agricultural production in Barbados has traditionally centered on sugar cane production; as a result, the country relies heavily on imported food and fruits to meet local demands. Faced with an increasing food import bill and continued reliance on sugar cane monoculture, the government requested IICA's assistance to diversify and expand the country's agriculture, particularly in the area of fruit tree crop production.

The project was formulated in 1985. The general objective is "to support appropriate agricultural diversification," and the specific objective is "to support the generation and transfer of appropriate technological packages for fruit production systems."

During 1986, the project concentrated action in the areas of technology generation and transfer. Emphasis was placed on the training of technicians, farmers and field personnel, the introduction and selection of fruit species and cultivars, and the preparation of technological packages for fruit production.

Training activities concentrated on plant propagation, nursery management and orchard development. Events included three courses, one regional seminar, more than 300 hours of in-service training, over 100 farm visits, the organization of three field days, the publication of bulletins, proceedings, fact sheets and technical papers, and the establishment of five demonstration plots. As a result of the training, the number and quality of plants produced by the nursery increased significantly. The demand for fruit trees began to rise as more farmers became interested in planting these crops.

The crop showing the most significant results was papaya, with improvement in tolerance to diseases (such as Bunchy Top) and an increase in overall yield. Total acreage planted surpassed the requirements for meeting local demand, and extra-regional markets (as in Europe) were explored with promising results.

For the first time, Barbados began commercial production of pineapple to satisfy local demand, and interest in this crop for import substitution grew rapidly.

* Please refer to footnote on page 10.

Several applied research studies were conducted in the areas of propagation, culture practices, screening of new cultivars, virus indexing, and phenological observations on 25 species of fruit. These studies, supported by surveys of fruit orchards, were used in the generation of technology to support commercial fruit produc-

tion in Barbados.

The project continued to support activities associated with fruit crops in other countries of the Caribbean area. Examples include a demonstration unit for fruit propagation in Guyana and a study of production and marketing in the Windward Islands.

BARBADOS Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support of Technology Generation and Transfer for Food and Fruit Production	Support the Ministry of Agriculture in identifying and introducing nontraditional food crops and develop practices and methods to overcome constraints on fruit production in Barbados. Prepare mechanisms to ensure dissemination and adoption of appropriate agricultural production technology for small-scale farmers, and assist MAFF in strengthening extension services.	Training activities held for farmers and agricultural technicians in techniques of propagation, nursery management and orchard development; new species of plants introduced, and improved local varieties screened.		0	102 900	102 900
Strengthening of Information Systems for Rural Development	Establish an effective information system on agricultural agreements in Barbados, as part of the MAFF Planning Unit.	Systems developed for monitoring externally financed projects, together with a national action plan for development of fruit crops.		0	85 100	85 100

DOMINICA

Dominica's potential for agricultural development is seriously constrained by the island's rough topography. Nevertheless, agriculture continues to be the main economic activity because of the absence of mineral resources and limited potential for tourism. The government continues to focus on agricultural development, with policies directed towards crop diversification for both domestic consumption and export, as a means of providing additional employment. Many available resources are channelled towards rehabilitation of the principal export crops and towards infrastructure, especially roads.

The Institute's technical cooperation actions in this newest member country were directed mainly to supporting plant protection services and small livestock development. A major effort is also underway to determine the potential for a subregional production/marketing strategy for nontraditional crops, in which Dominica would play an integral part.

Project action

The Plant Protection Project in Dominica continued to make significant progress. Training activities during the year covered such topics as crop protection, pest and diseases of specific crops, proper use of pesticides, plant quarantine, and postharvest handling of perishable commodities. These training activities benefited 249 farmers and 40 hucksters, as well as extension agents, plant quarantine inspectors and customs officials.

Extension leaflets were prepared on general plant diseases, citrus pests and plant quarantine. Descriptions were developed of the nature and control of specific diseases, for inclusion in a crop protection manual.

Sheep producers received special support. Seventy farmers and 12 extension agents attended three one-day seminars on sheep production, and a pamphlet was produced for distribution to participants.

Three sheep-rearing units were established on farms in Castle Bruce, Marigot and Saint Sauvert as demonstration centers for transferring improved production technology. Two improved grass

species (*Echmyocloa polystachia* and *Bracharia* sp.) were also introduced. Another activity to improve sheep production systems involved 48 visits to sheep farms, and three visits were made to schools.

*Increasing Plant Protection Skills in the Ministry of Agriculture**

The plant protection project for Dominica was IICA's first technical cooperation effort in the country. It began in 1984 in direct response to the government's expressed concerns for improving plant protection services. The project's specific objective is to provide more effective plant protection services by strengthening and improving the crop protection unit and expanding the capabilities of extension staff.

Since the start of the project, many workshops, field visits and demonstrations have been organized for training extension staff and selected farmers in principles of crop protection, identification and control of diseases and pests, and pesticide management. A number of simple leaflets on various aspects of plant protection, including plant quarantine, have been prepared and distributed.

A reference collection of disease and pest specimens is being built up, and a small diagnostic laboratory is now operational. A crop protection manual is being written in association with project personnel in other countries of the Caribbean.

During 1986, a survey was carried out in collaboration with the Coconut Rehabilitation and Expansion Project (CREP) to determine the incidence of the *Eriophyes guerreronis*, or coconut mite. This pest is believed to be relatively new in the country, and it is not so widespread as in neighboring islands. A project proposal was prepared to seek external financial support for controlling the mite. Another survey was carried out to determine the incidence of the mango seed weevil. This pest has recently led to the prohibition of mango exports from St. Lucia to Barbados. The survey revealed that the pest is indeed present, but not widespread. Interest is high in promoting the mango crop, and attention to this problem will be warranted in the near future.

* Please refer to footnote on page 10.

The year 1986 was marked by the passing into law of a new Plant Protection and Quarantine Act, based on the FAO model and containing modifications drafted by project personnel. Similar legislation is being promoted in Grenada and St. Lucia, in an effort to harmonize the system.

The project has provided training to personnel in the Ministry of Agriculture, increasing the skills and professionalism of extension agents and others. Diagnostic capabilities were developed, and significant progress has been made in the preparation of crop protection and laboratory manuals.

DOMINICA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Improvement of Plant Protection Capabilities in the Ministry of Agriculture	Provide the country with a more effective plant protection service by strengthening and improving the Crop Protection Unit.	Training provided for farmers, extension agents, plant quarantine and other personnel through seminars, field demonstrations and printed material.		0	47 800	47 800
Support for Small-Scale Sheep Producers	Support increased production and productivity of sheep on small farms in Dominica.	Training provided for 20 farmers and 12 extension agents through seminars and printed material on sheep production; three simple sheep rearing units established on small farms to serve as demonstration centers for improved management practices.		0	48 500	48 500

GRENADA

Over the past few years, economic development in Grenada has experienced major changes as a result of new policies. Both agriculture and tourism, two of the most strategic sectors of the economy, were adversely affected. Internal difficulties were exacerbated by the global economic recession, which seriously affected by the global commodity prices, and had a negative influence on domestic production.

Grenada relies heavily on agriculture as a source of foreign exchange, domestic food supply and employment. Nevertheless, there is a need to reawaken the interest of youth in agricultural pursuits.

IICA's actions in Grenada have been directed mainly towards the generation and transfer of improved technology for the production of domestic food crops, and developing and strengthening plant protection and plant quarantine capabilities.

Project action

Extension agents in Grenada received training in vegetable production techniques and farm planning as part of a project for training, research and development for agricultural production. Students of the Agricultural School benefited from lectures on various facets of crop production. On-farm demonstrations were held, and leaflets were produced to facilitate the transfer of improved food crop production technology.

A special achievement in the area of research was the collection and processing of data on the results of experimental vegetable and tuber crops. Yield data were collected on the different plots for the tested varieties. Furthermore, 26 lectures, seminars and workshops were held on farm planning, using special support material.

*Increasing Plant Protection Skills in the Ministry of Agriculture **

The plant protection project began in mid-1983. Government officials had been requesting IICA assistance in this field since the

* Please refer to footnote on page 10.

previous year. The specific objective of the project is to develop and strengthen the Ministry's capabilities in the area of crop protection by providing technical support, training and direct action.

The project has given special attention to training extension agents in identification and control of diseases and pests. Another major area of concern has been to reactivate the Crop Protection Unit, thus improving technical capabilities within the Ministry of Agriculture.

The project has four components: training, development of field diagnostic techniques, research, and organization of an effective plant protection service.

During 1986, the project continued in-service training for extension agents and selected farmers, focusing on general crop protection and field diagnostic techniques through advisory farm visits and field demonstrations. One-week workshops were taught on integrated pest management and on pesticide handling, organized and implemented in cooperation with USAID. Four plant quarantine officers have received training overseas with support from this agency.

A survey of the incidence of fruit flies was initiated in April, in collaboration with APHIS and USAID. Although the survey is to continue for 18 months, no fruit flies of quarantine significance have yet been found.

This project has received substantial financial support from USAID, and the following results have been achieved:

- The Pest Management Unit now is in place and operating with professional staff.
- The plant quarantine service is operating at air and sea ports.
- Laboratory diagnostic facilities are in place, and the reference collection of disease and pest specimens is progressing satisfactorily.
- Two laboratory technicians have been appointed and are receiving in-service training.
- Extension agents from the Ministry of Agriculture, members of commodity associations and farm school students have increased their skills in various aspects of crop protection.
- A fruit fly survey is nearing completion, and elements are in place for sustained monitoring of these pests.

GRENADA		Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
Project or Action	Source			Amount	IICA	Total	
Training, Research and Development for Agricultural Production		Improve technical capabilities of extension agents and develop appropriate links between food crop producers, marketing and the National Import Board (NIB). Increase the effectiveness of the NIB and expand farmer ability to provide needed volumes of high-quality products on time.	Extension agents and farmers trained in vegetable production techniques and farm planning; continuing support given to Grenada School of Agriculture through regular lectures.		0	64 100	64 100
Improvement of Plant Protection Capabilities of the Ministry of Agriculture		Help the Ministry of Agriculture strengthen capabilities in the field of plant protection through technical support, training and direct activities.	Extension agents trained in field diagnostic techniques through seminars and workshops, and scholarships provided to plant quarantine officers. Fruit fly detection survey initiated.		0	64 100	64 100

GUYANA

Guyana is the largest of IICA's Caribbean member countries in terms of land surface area, and it has good potential for agricultural development. Factors impeding development include the need for improved access to land and the small size of the population, with its heavy concentration in coastal areas. Since the mid-1970's, the government's efforts to harness and exploit the country's resources

have not been as successful as desired, as a consequence of the dramatic increases in petroleum prices on the international market. The shortage of foreign exchange has increased, with a negative impact on production and productivity of major export crops. However, there has been a significant improvement in domestic food production.

IICA continued to lend its technical capacity to assist in the development of the sector. The principal efforts were a project for improving food crop production and a parallel project to improve

dairy management and production systems, with strong support from the multinational animal health project. IICA, responding to new needs identified by the government in 1986, initiated an activity to provide technical assistance for the diversification and expansion of fruit tree crops.

Project action

The Food Crop Demonstration Propagation Unit is a cooperation activity designed to improve the capabilities of the government of Guyana for expanding food crop production to meet local, regional and extra-regional demand. To achieve this goal, training in plant propagation and nursery management was provided for technicians and farmers. New techniques were introduced for increasing efficiency and overall production in nurseries. New cultivars and local clones were provided for increasing the quantity and quality of genetic materials. Trials were conducted with local materials to substitute imported inputs, and an index was prepared of citrus plants used in the propagation unit.

Measures were taken during 1986 to reduce the possibility of contamination by viruses and virus-like diseases. Nursery personnel received in-service training for this purpose, and the measures are now being used on a routine basis in the demonstration unit. Another goal was to improve the quality of plants used, and for this purpose, standards were drafted and adapted for citrus nursery plants as a first step towards preparing guidelines on other fruit crops. Special control forms were designed and adopted for improving the efficiency of nursery operations.

The construction of new nursery facilities is nearly complete, and progress was made in repairing present facilities. It was found necessary to identify constraints on operations of regional nurseries, and a questionnaire was designed and distributed for this purpose. The results will be combined with nursery visits for identifying limitations and training needs. Progress was also made in constructing a mist propagation unit, and the equipment was acquired. Trials were held with various local species for substituting imported genetic materials, and the search continues for local organic deposits to be incorporated into the soil.

Another project introduced improved technology to increase production and productivity by small farmers in Guyana. Diagnostic studies and preliminary on-farm demonstrations were initiated for

this purpose. The production of vegetables by members of the women's group in the area increased, and a wider range of vegetables is now being produced. Thirty farmers and housewives participated in two field visits for observation and demonstration of improved technology for commercial vegetable plots.

Support was provided for improving the quality and quantity of inputs and services available to small-scale farmers. Field visits were made on a regular basis by agricultural extension personnel and technicians from the National Agricultural Research Institute. Assistance was provided for improving the management skills of small-scale farmers and of agricultural sector personnel. Production and productivity were maintained and increased in the Crabwood Creek area, and nurseries were developed for fruit tree growers.

*Improving Dairy Production Systems for Small-Scale Farmers**

Guyana has considerable potential for livestock production and a tradition of cattle rearing in both the coastal areas and the interior savannahs. This project was initiated in 1984 in response to the government's desire to improve the level of husbandry and increase milk production.

The general objective of the project is to improve the production and productivity of dairy systems as a means of increasing the food supply, expanding employment opportunities, decreasing milk imports and improving the well-being of the rural population.

Since its inception, the project has carried out a number of activities in collaboration with national technical counterparts and relevant agencies, particularly the National Dairy Development Programme (NDDP). Initially, a thorough survey was conducted to learn about production systems and practices of dairy farmers in the Crabwood Creek area. Certain technological deficiencies were identified, and the project then proceeded to establish a Dairy Demonstration Unit at the St. Stanislaus College to serve as a central training unit for small farmers and extension agents. Antelope grass was introduced and proved to be extremely successful in the local environment, and small milking machines were well received among farmers.

Once an appropriate level of technology had been developed at

* Please refer to footnote on page 10.

the Central Demonstration Unit, the project supported the establishment of 15 dairy units operated by private farmers, 25 grass nursery units and five grass multiplication centers involving approximately 2,000 acres of antelope grass in different parts of the country. These efforts were strongly supported by training activities for farmers and extension agents to ensure the successful continuation

and expansion of the program.

The government, through the National Dairy Development Programme, has adopted the project as a model for expanding dairy production in the country. In addition, IDB has offered to fund a special activity to help farmers in the Crabwood Creek area use the technology that has been developed.

GUYANA		Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
Project or Action	Source			Amount	IICA	Total	
Demonstration Unit for Fruit Crop Propagation	Support the government of Guyana in expanding fruit crops to meet local, regional and extra-regional demand.	Principal IICA/IDRC Plant Propagation Unit rehabilitated for propagation of improved plants and for training.	IICA/IDRC	16 125	0	16 125	
Improvement of Dairy and Agricultural Production Systems with Emphasis on Small Farmers	Increase the production and productivity of small-farmer dairy production systems and improve the quality and quantity of inputs and support services.	Fifteen dairy units organized and supported, involving introduction of improved dairy techniques and pasture management; 450 farmers and extension agents trained.		0	124 100	124 100	

HAITI

The process of political change in Haiti continued during 1986. This, together with the difficult economic situation, adversely affected the climate for social and economic development. The new administration has set forth major reforms, and several international agencies are participating in a wide range of projects and technical assistance programs in the country.

The government continued to place highest priority on agricultural and rural development, in light of serious unemployment and low levels of domestic food production. The areas singled out for special assistance included soil and water conservation and management, and reforestation.

Major advances were achieved through the swine repopulation project to rehabilitate this industry. Special attention was given to technology transfer, training and documentation of resource materials.

Project action

Numerous cooperation activities in Haiti have taken place in the fields of pisciculture and aquaculture. One of these projects focuses on raising tilapia fish in association with rice crops in the Artibonite Valley. Available documentation on the idiosyncrasies of the area was compiled and studied. Two visits were made to the valley to study its potential on-site. A first extension sheet was prepared on this ecological system combining tilapia repopulation with rice cultivation.

One of the major goals of a project in Les Cayes for associating fish and swine production was the construction of pools for raising fish. Field visits were made to conduct were then selected for production in the zone. Two locations were then selected for constructing the pilot demonstration centers. Another project is focusing on pisciculture in the agricultural district of Nippes. Aquaculture projects are envisioned for rural development in the zone. For this purpose a complete study was performed of the area, and the best places selected for the following activities: fish and rice cultivation in association with integrated pig and fish raising; controlled fish repopulation in natural lakes; and creation of an experimental center for fish raising.

Other activities in aquaculture included a project for controlled production of snails in Kenscoff. Support was provided for raising the *Helis aspersal* snail under intensive, controlled conditions for export purposes, and several visits were made to the zone for evaluating the potential of this endeavor. A prefeasibility study was completed on catching, preparing and shipping eels (*Anquilla rostrata*) from the Artibonite River as an export activity. A study was made of existing documentation concerning the possibilities for producing this fish, and a project was prepared for submission to Spanish funding sources.

In a related field, a project was carried out for study and control of the *Bilharziasis* parasite in Haiti. Mollusks are carriers of this parasite, which affects human beings. A meeting was held with a representative of the WHO to discuss the presence and biological control of this pest.

Another area of cooperation involved a project to study irrigation systems in Haiti. Studies covered systems in Torbeck, Maissade, Rivière Grise and Rivière Blanche, to prepare strategies for rehabilitation of these zones. Information was compiled on various irrigation systems in the country.

A feasibility study was conducted on the Torbeck River in cooperation with engineers from the Irrigation Planning Office and the Agricultural Engineering Service. This task was a direct training activity. An additional 42 students from the Faculty of Agronomy and Veterinary Medicine (FAMV) were also trained in basic principles of irrigation.

Four technical guidance manuals were prepared for the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR): topography, soil mechanics and geotechnics, civil works and budget control, and water applications on irrigation plots. A technical cooperation team supervised detailed studies for the second phase of Artibonite Valley rehabilitation, and a firm was selected for building the structures in ODVA.

A short-term activity led to a diagnostic study of the present situation of Leogane plain, concentration on four different fields: agriculture, hydrosedimentology, irrigation and drainage, and proposed crop systems.

One of the major objectives of a project to strengthen extension in the FAMV in Damien was to establish the technical content of informal training. Three courses were developed on production

systems for small-scale producers, small farm management, and farm storage of harvested crops.

Three more courses in the public and private sectors, with complete text materials, were held in Cul de Sac plain and attended by small-scale farmers from the local agricultural agency. Two specialists from the Faculty of Agronomy took part, and 50 farmers attended. The person responsible for this project is assisting with the development of crop systems and the swine repopulation project.

Other achievements in 1986 included:

- Introduction of new plants for farmers: *Psophocarpus tetragonolobus* (winged bean), *Cnidioscolus chayamansa* (chaya) and *Amaranthus* (amaranth).
- Establishment of processes for using the new grains: amaranth flour; amaranth pop corn; preparation of amaranth seeds as corn meal; and participation in preparing a seed project for the School of Agronomy, with the cooperation of the private agriculture sector.
- A seed analysis manual was prepared as support material for professionals from the Ministry of Agriculture. Courses were taught on classic genetics and plant improvement for students and farmers in Damien.
- IICA participated in organizing a symposium on modern coffee cultivation.
- A book was translated on technology generation and transfer for use by researchers, extension agents and agricultural personnel.
- A small library was established for farmers in Cul de Sac plain, and the Dr. Pierre G. Sylvain collection was set up in the library of the School of Agronomy. This collection now contains more than 4,000 documents on agricultural sciences.

Another project was designed to improve the efficiency of crop systems in Cul de Sac plain. One of its objectives was to establish a technical team trained in this field. The following results were achieved: a study on systems design; application of systems theory in agriculture; and research on production and crop systems. A French translation of a document with guidelines for diagnosis of production systems was useful as support material.

A document on technology generation and transfer processes is now being adapted to conditions in Haiti. Data are being compiled for preparing a diagnostic document on agricultural and socio-economic conditions in Cul de Sac plain.

The following results were also achieved:

- Articles of association and by-laws were drafted for establishing a farmer cooperative, and the executive committee was set up.
- Germplasm ("Ramie" from the Dominican Republic) was imported, and three hectares were planted.
- Three local farmers were hired to produce seeds for distribution of alternative foodstuffs, as part of the establishment of a seed bank.
- Studies were carried out for beginning fish pool construction in the Secondary Multiplication Centers.
- Twelve people were trained, including five veterinarians, in identification of exotic diseases.
- In the area of plant protection, IICA helped prepare a bibliography of plant pests and diseases in the zone.
- In the field of animal health, support was received from USDA/APHIS to establish a system of epidemiological surveillance and to operate nine diagnostic laboratories that will open in 1987.

Interim Swine Repopulation Project *

Since 1982, the Institute has been engaged in a major collaborative effort with the government of Haiti, initially to rid the country of African swine fever, and subsequently to reestablish the swine industry. Technical and financial support have been provided by a number of international agencies, in particular USAID, USDA and PAHO. The project has received widespread support and collaboration from small farmers and rural groups and organizations, both during the initial phase and during the present repopulation campaign.

The second phase of the project began in 1985, upon successful completion of phase one, which involved the extermination of

* Please refer to footnote on page 10.

almost the entire swine population. The objectives are to: a) establish breeding centers for pigs in the Haitian countryside; b) distribute piglets to farmers; and c) produce feed to support the industry.

By the end of 1986, 400 breeding centers had been established throughout the country and stocked with 4,600 breed sows. These Secondary Multiplication Centers achieved a distribution rate of 3,000 piglets per month, and over 30,000 piglets have so far been turned over to small-scale farmers.

Accessible and reliable sources of swine feed were needed to sustain the reproduction effort and ensure the long-term viability of the project. A feed depot measuring 30,000 sq ft was established, with two feed mills producing at the rate of over 700 tons of pig feed per month. The project proposes to continue establishing mills, but more importantly, to address the problem of substituting cheaper local feeds for imported ingredients, insofar as this is

practical and feasible.

Associated with the repopulation program is the establishment of an Animal Health Monitoring Program supported by three fulltime veterinarians and seven trained animal health technicians.

Essential to the long-term success of the project is the need for training. This has taken the form of seminars, field demonstrations and printed material such as bulletins and leaflets. The training information for farmers, rural people and extension workers has been translated into the local *patois*, and extensive use is made of rural community and public bulletin boards and other visual aids. Approximately 50 seminars were conducted monthly, each involving an average of ten farmers and rural people.

During the period of the new Medium Term Plan, the repopulation efforts will continue. Increasing emphasis will be placed on strengthening extension, laboratory and diagnostic services in the field of animal health.

HAITI Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Cooperation to the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) and the Artibonite Valley Development Agency (ODVA) in Water Resource Management	Cooperate in developing methods for conducting studies and supervising constructions for overall remodeling of irrigation systems targeted by MARNDR and ODVA.	Inventory completed of data on irrigation systems in Haiti; analysis performed of information including diagnostic study of Leogane project; technical support provided to local technical counterparts. Technical material prepared.	IICA/ USAID- FAMV IICA/ USAID	8 030 22 400	61 586	90 016
Strengthening the MARNDR Cattle Division and Support for Swine Repopulation Interphase	Cooperate with the MARNDR Livestock Division for increasing production of beef, milk and eggs. Continue with eradication of African swine fever and begin repopulating with imported pigs.	Production of piglets increased to 3,500-4,000 per month. 400 producer associations organized. One feed mill installed, and training provided to extension workers, farmers and rural families.	USAID/ SWINE REP. IICA/ USAID PHASE 2	589 630 992 849	46 710 11 315	1640 504

HAITI Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources		
			Source	Amount	IICA	Total	
Supervision of Animal Health Diseases	Establish an epidemiological monitoring system for animal health in Haiti, based on presently existing infrastructure.	Animal disease diagnostic laboratory established with technical and financial support from USDA/USAID/GOH.	IICA/ HAITI (AN. HEALTH) IICA/MIN. PLANNING	88 860 345 729	0	434 589	
Improving the Capacity of the Faculty of Agronomy for Training Technicians in the Rural Sector	Increase food production by giving it high priority and improve technical capabilities. Assist CERDA and DVP in improving 3 crop systems in Cul de Sac plain, in an area containing 30 hectares.	Cooperation given to Faculty of Agronomy in training activities and field research. Technical support and training provided to technicians of MARNDR in irrigation, soil and water management.			0	27 500	27 500
Improving the Efficiency of Crop Systems in Cul de Sac Plain	Help FAMV complete the organization of its internal structure for extension, so it can diagnose immediate training needs among technicians and farm producers.	Collaboration continued with local technical team in diagnosis of agrosocial and economical conditions in Cul de Sac plain. Proposal formulated on design of irrigation and farm production systems.			0	24 100	24 100

JAMAICA

The Government made major efforts to revive stimulate and the economy following a period of contraction related to the global economic recession. In 1985, for example, the economy showed negative growth for the second successive year, with agriculture's share of the GDP declining by 3.4 percent. Foreign debt increased by over three million dollars at the end of 1985.

Efforts to revitalize the economy focused attention on the modernization of agricultural production through a program called AGRO 21, which emphasized food self-sufficiency and crop diversification. Due to the scarcity of foreign exchange, the country relied on external borrowing and both technical and financial assistance from international agencies. IICA continued to support the efforts of the government through projects to develop improved crop production systems and train rural entrepreneurs in management techniques for small businesses.

Project action

A project to support planning and management of the rural development process in the Caribbean concentrated on Jamaica, where it designed and introduced programming and budgeting system for specific projects in the agricultural sector. A second goal was to implement systems for monitoring and evaluation of high-priority programs in the sector. For this purpose, an assessment was performed of the Agricultural Development Corporation, exploring its future roles and operations. This was a first step in developing annual programming and budgeting systems for the agricultural sector.

The Ministry of Agriculture (MINAG) received assistance in analyzing the costs of production methods for the dairy industry in Jamaica. A seminar was held on research planning methods for technicians of the MINAG Research Division. Preliminary talks were held with the Economic Planning Division of MINAG, and a plan of action was discussed to: a) strengthen the farm management section for conducting studies on the costs of producing major commodities; b) analyze problems affecting the farm enter-

prise; and c) improve farm management information and technical assistance to farmers.

Finally, technicians received on-the-job training in methods of programming, budgeting, monitoring and evaluation. A workshop was organized on identification and design of research projects.

A short-term action was carried out for obtaining cultivars of high-yield varieties of cassava. A specific goal was to conduct comparative tests of cassava production and thus determine yields at different altitudes, with different soil types, under different rainfall patterns. As part of the test, 17 plots were planted in 14 locations, with altitudes varying from 50 to 2,300 feet above sea level, and average rainfall ranging from 35 to 100 inches per year.

The first plot will be harvested in May 1987, and the planting materials will be supplied to farmers in the areas of the test.

A technical cooperation project for cropping systems in Jamaica developed production systems that will help increase the basic income of small-scale farmers, while conserving the watershed and other natural resources. The project is associated with the country's agricultural development objectives and emphasized the generation and transfer of know-how and experiences, complementing local technical capacity.

As part of project activities, profitable production systems have been developed for cabbage, potatoes and ginger. Inter-cropping of sugar cane with potato (*Solanum tuberosum*) successfully demonstrated that this technology can increase per-acre income. New varieties of corn from the International Center for the Improvement of Corn and Wheat (CIMMYT) were found to be as productive as the "Pioneer X 306 B," and have been distributed to farmers. Passion fruit has been identified as a crop adaptable to zero tillage conditions for soil conservation on steep slopes. Sorghum varieties from ICRISAT yielding two tons per acre have been identified for use with cassava and forage legumes in integrated crop and livestock systems. Demonstrations are being conducted with the "minisett" technology for producing export yams. The project has demonstrated that rapid multiplication of potato planting material can take place successfully throughout the year using technology developed by the International Potato Center (CIP).

Strengthening Jamaican Rural Development Programs through Human Resource Development*

This project was specifically designed to increase the capacity of national institutions that support rural micro-entrepreneurs in the management of small rural enterprises.

During the past three years, the Institute has collaborated with national institutions in planning and holding training activities to enable Caribbean rural producers to organize and manage their small enterprises more efficiently, thereby improving their incomes. In the formulation and execution of the activities, particular attention has been given to the involvement of national coun-

* Please refer to footnote on page 10.

terparts and rural women's groups and leaders.

Training materials were provided, and a cadre of trainers specialized in small businesses was incorporated, so as to expand the scope of the project.

The project has gained great popularity among several national agencies in Jamaica. Three basic training manuals were developed ("Operating a Small Business in Jamaica," "Starting and Financing a Small Business in Jamaica" and "Marketing Jamaican Small Business Products") and have been used to prepare over 400 trainers. Further activities have begun in Barbados and St. Lucia. A fourth training manual was written, entitled "Teaching Tools for Small Business Trainers."

These trainers have brought new methods to over 5,000 participants since mid-1983.

JAMAICA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Cooperation in Cropping Systems	Identify improved production methods for cropping systems acceptable to farmers in the Guys Hills and Watermount zones. Provide in-service training to project members in farm research techniques.	Field production and evaluation of improved cropping systems continued in two ecologically different zones in Jamaica. New technologies and planting material applied.	CROP S. IICA/IDRC	63 800	75 819	139 619
Technical Cooperation for Development of a National Cassava Reactivation Project	Develop a viable cassava industry as part of the agricultural contribution to GDP, for saving foreign exchange through a program of self-sufficiency and import substitution.	Improved cassava cultivars multiplied and evaluated.		0	40 000	40 000

JAMAICA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support in Planning and Management for Agricultural and Rural Development	Structure and strengthen institutional capabilities in support of identification, formulation and implementation of policies, programs and projects for the agricultural and rural sector.	Agricultural Development Corporation evaluated. Costs determined for production studies on the dairy industry in Jamaica. Seminar given on research planning methodology for technicians of MINAG Research Division.		0	71 100	71 100

SAINT LUCIA

Although Saint Lucia has made significant efforts to diversify its economic base, particularly through tourism and light manufacturing, the country continues to rely on agriculture as one of the principal sources of production and foreign exchange. Governmental policy for the sector focuses on the diversification of production to lessen the dependence on banana and, to a lesser extent, coconut. These efforts continue to face major problems associated with the limited resource base, the need to modernize tenurial systems, and limited technical and financial resources.

Saint Lucia is one of the most recent member countries of IICA, and the Institute's role became more clearly defined during 1986. Priority will be placed on supporting the institutional and technical basis of the production and marketing system, in keeping with the government's diversification policy. IICA's main actions in St. Lucia have focused on plant protection, sectoral planning, support to the agricultural census currently being conducted, and assisting farmer organizations.

Project action

Training in plant protection continued to take the form of farm visits by extension agents. During the year, 36 farm managers and extension agents participated in these activities. A seminar was held on pesticide safety, and three leaflets on pesticides were produced for farmers. The nematology section of a laboratory manual was completed, and nearly 100 slides of disease and pest specimens were prepared for the reference collection. Research of coconut mite produced several findings: basal application of chemicals did not control the pest, and fertilizers were also ineffective; but banana oil spray gave encouraging results.

A project on production and marketing for small-scale farmers produced profiles of farmer organizations in the four Windward Islands, with historical information on their production and marketing experiences. Project profiles were prepared for supporting rural development through farmer organizations, and they are presently under study by interested parties. The project helped sponsor a meeting of representatives of farmer organizations from Dominica, Saint Vincent and Saint Lucia to examine the possibility of joint production and marketing activities.

The planning project in Saint Lucia supported implementation of an agricultural census and development of computerized information systems for monitoring performance of selected areas in the agricultural sector. Technical assistance was also provided to the Ministry of Agriculture for developing methods of programming and budgeting in one of the divisions of the Ministry. Special support was provided for developing computer programs for planning and implementation of agrarian policies, and personnel were trained in the use of microcomputers.

Improving Plant Protection Capabilities in the Ministry of Agriculture*

IICA and the Caribbean Development Bank (CDB) are conducting an activity of potential significance in the Windward Islands (Dominica, St. Lucia, St. Vincent and Grenada): a production and marketing study of selected fruit crops.

* Please refer to footnote on page 10.

The governments of the countries of the Windward Islands, aware of their small production base, are keen on exploring the possibilities of combining their efforts for production and extra-regional marketing of commodities which in the past have not been exported. They requested the CDB to study the matter, an agreement was signed, and a study is now being implemented.

The objective of this plant protection project is to determine key production and marketing constraints and frame alternative solutions for joint production and marketing of selected agricultural commodities. It will also identify and prepare specific project profiles on the export of specified produce from the four Windward Islands.

Comprehensive diagnostic studies were undertaken in St. Lucia, Dominica, Grenada and St. Vincent. The results will be analyzed to determine the feasibility of an integrated effort for the joint, systematic production and marketing of selected fruits in international markets. The study, which is nearing completion, is expected to provide information necessary for making decisions on this subject.

SAINT LUCIA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Improvement of Plant Protection Capabilities in the Ministry of Agriculture	Provide the country with a more effective plant protection service by strengthening and improving crop protection units.	Production/marketing study conducted of selected fruits in the Windward Islands. Data compiled on farmer organizations.		0	43 700	43 700
Training of Technicians in Preparation of Projects on Production and Marketing for Small Producers	Provide national technical personnel with appropriate methods for training small-scale farmers in improved management techniques with which to select, formulate and successfully carry out agricultural production projects.	Farmers and extension personnel trained through seminars, printed material, laboratory manual and audio-visuals aids. Ongoing coconut mite research.		0	55 800	55 800

SAINT LUCIA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Improvement of the Planning and Implementation Process of the Agricultural System	Structure and strengthen institutional capabilities for supporting the identification, formulation and implementation of policies, programs and projects for agricultural production.	Execution of the agricultural census planned and managed. Computerized information system developed for monitoring the performance of selected areas of the agricultural sector.		0	31 100	31 100

SURINAME

During the year, Suriname continued to experience rapid deterioration in its foreign exchange reserves, resulting in serious shortages of food supplies and production inputs. These circumstances were exacerbated by shifting political conditions and a decline in the production of bauxite and alumina, the principal sources of foreign exchange.

Agriculture showed positive signs. Increases were registered in the production of rice and bananas, and the fishing industry is improving its shrimp yield. The overall socioeconomic context is complex, however, and the future of these activities is hampered by diminishing foreign exchange earnings and the increasing cost and scarcity of production inputs.

IICA's technical assistance to the country focused principally on the oil palm and coconut industry, which the government identified as an area of high priority. Personnel are being recruited, and it has been proposed that the project be reviewed and efforts be made to secure additional external financing in order to step up the implementation of the research. Other areas of activity include dairy production and support to the planning process.

Project action

IICA was active in the field of agricultural research and extension, conducting a diagnostic study of the extension service. The findings were discussed with government authorities. A first draft was completed of a study entitled "Agricultural Technology Transfer within the Agricultural Research and Extension System in Suriname." A proposal was prepared on policy mechanisms for technology transfer, and will be discussed with government authorities. A miscellaneous publication was completed, entitled "Agri-

cultural Research in Suriname," and publication was completed on the proceedings of a short course on agricultural technology transfer, held in Suriname in August, 1985. A technician of the Agricultural Research Division of the Ministry of Agriculture was selected to attend the Fifteenth International Training Course on Research Techniques in the Field of Plant Protection.

A project to strengthen animal production provided in-service training in Guyana for three technicians and one dairy farmer, to improve their knowledge of dairy development. A strategy was proposed for improving dairy production in the country. A proposal was drafted for a short course on milk production, to be attended by farmers, and during this process, 19 technicians were trained.

IICA worked to improve the capabilities of the Agricultural Sectoral Planning Unit, preparing a proposal for a seminar on farm management and information. The proposal was then submitted to government authorities. In early December, a round table was held on strengthening communication between the field service and specialized divisions of the Ministry of Agriculture and parastatal institutions.

Other achievements in Suriname included the introduction of new methods for setting priorities among projects; the preparation of a workshop on planning agricultural research, in cooperation with the Ministry of Agriculture; and the beginning of a study of survey data for preparing a research project on cropping systems.

***Improving the Agricultural Research and Extension System:
The Coconut and African Palm Research Center ****

The Institute received a specific request from the government of Suriname, and in 1984 initiated the project to establish a national coconut and oil palm research center to solve the urgent problems of hartrot disease and the *Cyparisirus* insect pest that affects coconut and oil palm production in the country.

The national technical counterparts made progress in conducting a field survey on the distribution of hartrot and castnia. The project also completed extensive literature reviews on the diseases, which were prepared for publication. Additionally, field trials were initiated on the control of host plants.

The Government has attached considerable importance to the project and assigned technical counterparts and laboratory facilities. IICA is now recruiting a specialist to provide technical supervision and guidance.

Under the new Medium Term Plan, it has been proposed that the project be revised with the possibility of giving it area-wide or multinational status in addition to securing external financing to strengthen the technical cooperation efforts. An agreement is currently being negotiated with the French Research Institute on Oils and Oilseeds (IRHO).

* Please refer to footnote on page 10.

SURINAME Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for the Research and Extension System and the Coconut and African Palm Research Center	Support the Ministry of Agriculture in research and extension activities and establish a National Coconut and African Palm Research Center to solve problems of hartrot disease and the <i>Cyparisirus</i> pest in these crops.	Diagnosis completed of the agricultural research system and report published. Continuing work in the field and laboratory on oil palm pests and diseases. Work carried out mainly by local technical counterpart. Bibliography on hartrot prepared.		0	93 300	93 300

SURINAME Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Strengthening of the Animal Health and Production Division of the Ministry of Agriculture to Attend the Needs of Dairy Management	Promote the strengthening of the Animal Health and Production Division of the Ministry of Agriculture, to meet the needs of improving dairy production in the country.	Three technicians and one dairy farmer supported for in-service training in Guyana on dairy production and management. Seminar held on dairy production, involving 19 participants.		0	7 900	7 900
Strengthening of the Agricultural Sector Planning Unit in Decision Making for Management of the Investment Process	Structure and strengthen institutional capabilities for supporting the identification, formulation and implementation of policies, programs and projects for the agricultural and rural sector.	Project document revised with appointment of an IICA planning specialist in June. Training activities begun with local counterparts and project inventory prepared.		0	56 700	56 700
Support for the Pomona Cooperative in Marketing Fruits and Vegetables	Establish an institutional structure capable of effectively performing agricultural marketing functions in response to development needs in the fruit and vegetable sector.	Activities deferred pending decision of the government.		0	5 400	5 400

TRINIDAD AND TOBAGO

Trinidad and Tobago enjoyed several years of rapid economic development, but beginning in 1984, the economy has experienced adverse conditions with a heavy impact in selected sectors. One major response to the changing fortunes was the devaluation of the local currency.

During 1986, while many sectors of the economy suffered serious decline, there were indications of a revitalization in some areas of agricultural production, particularly domestic food production. The government focused greater attention on a new program for the rehabilitation of certain traditional crops such as cocoa, coffee and fruit tree crops. The Institute supported these renewed efforts, with specific emphasis on plant protection, marketing, and investigations into new mechanical production technologies for tree crops.

Project action

The Plant Protection Program for the Caribbean held a regional seminar on the diagnosis of pests and diseases in food crops, in cooperation with the Ministry of Agriculture, Lands and Food Production (MALFP) and the Caribbean Agricultural Research and Development Institute. The seminar provided training for 32 people.

Work took place to establish a National Agricultural Information System in Trinidad and Tobago, and for this purpose, technical assistance was provided to various institutions of the Ministry of Agriculture. For example, the Fisheries Division received assistance in creating a data base, and the Hillside Farming Project was supported in preparing a bibliography on soil management in the area. The library of the Central Experimental Station received assistance in preparing input for the AGRINTER system, and an agricultural bibliography was published on Trinidad and Tobago from 1960 to 1985.

A short-term activity was carried out to assist the Ministry of Agriculture in improving domestic marketing of food crops. The activity began in 1985 in response to a request from the Ministry for assistance in marketing food crops. Proposals were prepared for

improving domestic marketing of fruits and vegetables. Recommendations included improvement of postharvest technology and staff training in market information systems.

Achievements during 1986 included: a) an officer of the Ministry received training in Barbados and the United States of America for developing market information systems; b) an agreement was signed between IICA and the Caribbean Industrial Research Institute for the preparation of four slide series on postharvest losses, to be used for training purposes; and c) IICA cooperated with the Department of Agricultural Economics of the University of the West Indies in carrying out an infrastructure analysis of local and municipal markets in Trinidad and Tobago.

Another activity was IICA's participation in a seminar on programming technical cooperation, held in Trinidad and Tobago in November, 1986. The seminar was organized by the United Nations Development Programme (UNDP) and had the following objectives: a) to provide government officers in charge of technical cooperation with the opportunity to share experiences; and b) to discuss ways of improving the management and coordination of technical cooperation activities in Trinidad and Tobago. The seminar was attended by senior officials of the Ministry of Agriculture, the Ministry of Finance and the Ministry of External Affairs.

*Investigation of Hillside Production Systems**

In recent years, the Government of Trinidad and Tobago has renewed its efforts to rehabilitate and expand production of certain traditional tree crops, including cocoa, coffee and citrus. The state's largest sugar estate, Caroni, embarked on a new program of crop diversification on marginal sugar cane lands and has identified robusto coffee, citrus and bananas as appropriate initial crops. Production of these crops had declined due to increasing production costs, scarcity of labor and the need to improve land use and technological practices.

The Institute supported the government's diversification program, working in collaboration with national technical counterparts to formulate a project that will address some of the key constraints.

* Please refer to footnote on page 10.

The project will support the introduction of appropriate technologies for improving productivity in topographically rolling and hillside areas and will test appropriate machinery and the rationalization of labor use.

During 1986, the project investigated the possibility of mechanizing certain aspects of tree crop production, using an all-terrain vehicle (ATV). Field trials were conducted with a fogger applicator for fungicide control of blackpod disease in cocoa. Appropriate

modifications are now being made in collaboration with the Faculty of Engineering of the University of the West Indies. A study was made of the impact the ATV might have on soil erosion. The "Bibliography on Caribbean Soil and Water Management and Erosion" was prepared, containing nearly 3,000 titles.

The project is currently being revised to reflect the areas of emphasis of the new government and the guidelines of the Medium Term Plan.

TRINIDAD AND TOBAGO		Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
Project or Action				Source	Amount	IICA	Total
Investigation of Hillside Farming Systems in the Caribbean		Promote the development and testing of appropriate technologies for mechanization and rationalization of labor use in perennial crops.	Investigation continued in use and adaptability of machinery for field work. Project proposal revised.		0	74 400	74 400
Establishment of a National Agricultural Information System		Strengthen the operating capacity of the documentation units in the Ministry to facilitate their inclusion in the national network.	Agricultural bibliography completed and published for 1960-1985, containing 3000 references; other bibliographies prepared on fisheries and soil and water management.				

Andean Area

Economic policies adopted in 1986 in the countries of Latin America and the Caribbean as a whole, including the five countries of the Andean Area, centered on simultaneous objectives of economic growth and price stabilization. However, the economies of the subregion grew at uneven rates, and in some cases, indicators have not increased since the decade began. This emerges clearly from data published by ECLAC on annual growth rates of the gross domestic product per capita (Bolivia 6.3, Colombia 3.0, Ecuador -12.0, Peru 5.9 and Venezuela -1.0).

The economies of the Andean countries, like those in the rest of the region, were noticeably affected by slow growth of the international economy and marked fluctuations in the prices of basic commodities and in interest rates. In addition, four oil exporting countries of the region were seriously affected by international price declines for petroleum.

The agricultural sector of the subregion is faced with political, structural and technological problems. However, it continues to be the major source of employment and income for a high percentage of the Andean population (Bolivia 47.3%, Colombia 34.3%, Ecuador 63.6%, Peru 40% and Venezuela 14.5%). The governments have attached great importance to this sector, but agriculture in the subregion still lacks clearly defined policies and strategies to promote development. Modernization has moved slowly, and infrastructure is inadequate for efficient transportation and communication in both domestic and export markets.

All countries of the area consider agriculture a high-priority activity. Bolivia has a program to restructure and modernize the sector, Colombia has approved a national plan to rehabilitate depressed rural areas, Ecuador is promoting an increase in public and private investment in the agricultural sector, the government of Peru has passed investment legislation for the agricultural sector, and Venezuela, where agriculture recovered strongly in 1986, is working on policies for tariff and price measures.

The Institute helped meet the needs of these five Member States by combining its efforts with those of public agricultural sector agencies in fields that are important for agricultural development in the Andes. Emphasis was placed on strengthening analytical capabilities and on formulating and carrying out projects. It is also

important to improve organizations for technology generation and transfer, formulate and manage integrated rural development projects, identify problems and solutions for marketing, and strengthen national and subregional structures for animal health and plant protection.

IICA began the Cooperative Program for Agricultural Research in the Andean Subregion (PROCIANDINO) in 1986, under a technical cooperation agreement signed by the Inter-American Development Bank, IICA and the five countries of the Andes. All parties contributed human, physical and financial resources for carrying out this agreement.

IICA's Plant Protection Program cooperated extensively in the Andean Area with the Board of the Cartagena Agreement (JUNAC) to coordinate activities. The two organizations produced a joint publication of plant protection legislation in the Andean countries, with an analysis and synthesis of legislative ordinances. In press is an inventory of pests and diseases of major economic crops in the countries of the Andean Area, which is expected to improve domestic and foreign trade of agricultural products from the area.

BOLIVIA

The IICA office in Bolivia carried out seven technical cooperation actions in 1986 with regular Institute resources. Action for technology generation and transfer consisted of projects to strengthen a training system for technicians of the public agricultural sector and outreach workers from producer organizations, to improve milk production systems in the departments of Cochabamba and Beni, to provide technical assistance in irrigation and drainage, and to help prepare a livestock development project for the area between Trinidad and San Borja in the department of Beni. Work in organization and management for rural development included implementing an integrated agricultural development project in Potosí, Cochabamba and Beni, and strengthening the management of integrated agricultural development projects. Action in

the field of agricultural marketing and agroindustry helped strengthen institutional mechanisms for developing marketing policies.

The IICA office in Bolivia established official relations for technical cooperation with the Ministry of Campesino and Agricultural Affairs (MACA); the Ministry of Planning and Coordination; the Bolivian Institute of Agricultural Technology; the National Wool Development Institute; the Agricultural Bank of Bolivia; the Executive Committee of Bolivian Universities; the Autonomous Universities of Gabriel René Moreno, Mariscal José Ballivian, Tomás Frias and San Simón; and the Regional Development Agencies in La Paz, Beni, Cochabamba, Potosi, Pando and Chuquisaca.

Activities were also coordinated with the Tropical Agriculture Research Center, FAO, OAS, IDB, IBRD, the Andean Development Agency (CAF), USAID-Bolivia, the Executive Secretariat of PL-480, the Development Fund of the La Plata Watershed (FONPLATA) and the Andrés Bello-International Integration Institute Agreement.

IICA's action in Bolivia during 1986 benefited 19 public and private institutions of the agricultural sector. The office published and distributed ten documents dealing mainly with the administration of integrated rural development projects. The services of six national consultants were retained for carrying out specific activities related to the projects.

IICA's support for carrying out integrated agricultural development projects in Potosi and Beni contributed significantly to coordination among the different participating institutions. Training was provided for over 300 staff members, and manuals and procedures were prepared on operational programming, budgeting, organization and coordination, follow-up and evaluation, and operations, among others. Direct technical cooperation was given to various projects in Trinidad and Potosi.

Project action

The project to strengthen a training system for public agricultural sector specialists and outreach workers from producer organizations cast light on the particular areas in which technicians and outreach workers in the departments of Beni, Cochabamba and Potosi require training. It also strengthened the training units of

the Integrated Agricultural Development Projects (PDAIs) in these departments and supported training for participating technicians and producers, at a time when the institutions had taken on new personnel who required orientation.

The project to improve milk production systems in the departments of Cochabamba and Beni supported training for technicians and producers in these departments, especially in dairy herd management, record keeping, pasture management and genetic improvement. It also helped strengthen milk production and research units in the universities of Cochabamba and Beni, and assisted the Beni Dairy Cooperatives ("Integral Beni Ltd.") and the Punata Integrated Service Cooperative in Cochabamba. The project helped improve livestock management and use of production records on the Pairumani demonstration farm.

The technical assistance project in irrigation and drainage began its work seven months into the year. It helped train technicians from MACA, universities, and regional development agencies in Oruro and Potosi in the workings of irrigation and drainage projects.

A short-term action contributed to the preparation of a livestock development project in the area between Trinidad and San Borja in the department of Beni. It helped prepare a project profile which the government of Bolivia needed for presentation to the IDB to obtain financial resources for the feasibility study. As this short-term action unfolded, it became possible to develop a project profile for agricultural development in San Ignacio de Moxos, the most important features of which were agricultural development using production systems, livestock development based on milk and beef with the introduction of improved pastures, and the development of rural agroindustry. The IDB is expected to commit financial resources for feasibility studies for the project.

Another short-term action strengthened institutional mechanisms for the promotion of marketing policies. As a result, MACA's Office for Agricultural Marketing obtained approval for a project under which IICA will provide technical assistance to the Ministry for the design and operation of an agricultural marketing system, extremely important for agricultural development in the country. This project holds high priority for the government of Bolivia and could begin in 1987.

The project to strengthen management of integrated agricultural development projects made an effective contribution toward

follow-up and evaluation of achievements. Evaluation meetings with people working in the two projects in which IICA is engaged were attended by officials and technical specialists from the participating institutions. They provided an opportunity for project personnel to brainstorm on possible changes that might improve project action and maximize impact among farmers. Improved planning has visibly increased the ability of farmers to obtain technical assistance. In-service training and a course on project writing improved management skills and resulted in the preparation of new, better projects suited to real conditions in the country. The course was attended by technicians from the different institutions of the public agricultural sector and from private institutions in Beni.

Other activities included support for the Plant Protection Office of MACA through a workshop on plant protection and a seminar on pest management and pesticides. They were attended by technical assistance personnel of the PDAI in Potosi, who learned about pesticide use and pest identification.

The field of animal health also benefited from IICA action. Special support was provided for organizing a network of diagnostic laboratories, through which it will be possible to make better use of available resources. Authorities in the department of

Beni received assistance in controlling bovine brucellosis and infectious equine anemia.

Support for the Implementation of Integrated Agricultural Development Projects in Potosi, Cochabamba and Beni *

This project contributed toward consolidating the Executive Committees in Potosi and Beni. Official and private organizations have stepped up their participation by contributing human, physical and financial resources. The project concentrated on technical assistance, training, credit and farmer organization as the main ingredients of IICA's support. It worked at the farm level, thus making technical assistance and credit directly available to beneficiary farmers. Ten institutions and over 32 national technicians also benefited from this process.

The project had a major impact, and the government of Bolivia has requested the Institute to extend its cooperation with similar projects in Pando and in the northern zone of the department of La Paz. Preliminary studies in these areas began during the year.

* Please refer to footnote on page 10.

BOLIVIA						
Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Resources Amount	IICA	Resources Total
Strengthening a Training System for Public Agricultural Sector Technicians and Outreach Workers from Farmer Organizations	Plan, organize, carry out and evaluate concrete training actions to improve the SPA and upgrade outreach workers from farmer organizations.	Diagnosis performed on training in selected areas. Training programs prepared for PDAs in Beni, Cochabamba and Potosi. 152 agricultural sector technicians trained.		0	79 800	79 800

BOLIVIA		Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
Project or Action				Source	Amount	IICA	Total
Improvement of Milk Production Systems in the Departments of Cochabamba and Beni		Improve technical capabilities of departmental organizations in the sector to encourage milk production.	165 sectoral officials trained in animal improvement, quantitative genetics, planning, artificial insemination, record keeping, livestock feeding, milk production systems and dairy farm management, with the cooperation of the universities of San Simon, Cochabamba and Beni.		0	66 700	66 700
Technical Assistance in Irrigation and Drainage		Strengthen the National Irrigation Institute, rehabilitate affected land, improve irrigated agricultural production.	Contributions made toward training technicians from MACA, universities, and development agencies in Oruro and Potosi in use of irrigation and drainage facilities.		0	26 300	26 300
Support for Carrying Out the Integrated Agricultural Development Project in Potosi, Cochabamba and Beni		Strengthen participating institutions and increase their ability to prepare and carry out agricultural projects in benefit of the PDAs.	Executive Committees consolidated for PDAs in Beni and Potosi. Greater local participation in human, physical and financial resources. Parcel planning used to increase technical and credit assistance for producers. Government requested use of same methods in Pando and northern La Paz department.		0	98 900	98 900

BOLIVIA					
Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Amount	Resources IICA Total
Strengthening Project Management for Integrated Agricultural Development	Improve managerial effectiveness of PDAI Executive Committees.	Mechanisms established for follow-up and evaluation with participation of various institutions. Course given on project writing.		0	32 800 32 800
Technical Assistance for Preparing a Project along the Trinidad-San Borja highway in Beni	Cooperate with the government in preparing a project profile.	Project profile prepared (agricultural development in San Ignacio de Moxos) for obtaining external resources and submitted to IDB for feasibility study.		0	11 175 11 175
Strengthening Institutional Mechanisms for Promotion of Marketing Policies	Cooperate with the government in preparing a marketing project.	Project on technical assistance prepared for MACA on design and operation of agricultural marketing systems, to begin in 1987.			

COLOMBIA

The IICA office in Colombia concentrated its actions during 1986 on several specific areas. In planning, it helped strengthen the capabilities of the Ministry of Agriculture and its associated offices in sectoral and regional planning and improved their coordination mechanisms. In the area of technology generation and transfer, IICA cooperated in restructuring the Colombian Agricultural Insti-

tute (ICA), strengthening research according to the objectives of PLANIA, and assisting with a dynamic transfer program that promotes technological change.

Marketing and agroindustry were also addressed, and efforts focused on improving the negotiating power of campesinos in the market and solving the problems of high costs and high risks caused by geographic dispersion, small volumes, highly perishable products, lack of working capital and inadequate market channels. Technical cooperation in agroindustry promoted the establishment of

enterprises using high levels of technology to maintain productivity, and assisted enterprises that make intensive use of the family labor force.

Training was provided for agricultural sector officials, an agricultural information network was organized, and interinstitutional projects for regional development were promoted. In these ways, the IICA office in Colombia played an important role in institutional strengthening of sectoral organizations.

The office worked in cooperation with international banks (IBRD, IDB), financial institutions (ALIDE, IDRC, AID, IFAD, GTZ) and regional technical institutions (JUNAC, CIAT and FAO). It maintained ties of technical cooperation with the Ministry of Foreign Affairs, the Ministry of Agriculture, and the Ministry of the Treasury and Public Credit. It also cooperated with the National Planning Department, 16 offices attached to the Ministry of Agriculture, and the Universities of Antioquia, Caldas, Externado, la Gran Colombia, Nariño, Tadeo Lozano, Tolima, the National University and the Southern University. It coordinated activities with 21 professional groups, four development associations, and other national and foreign institutions in carrying out technical cooperation projects.

The IICA office in Colombia signed four legal agreements in 1986 and put them into effect. It published and distributed 39 technical documents and hired 26 national and international consultants. Activities were funded by the Institute's regular resources and by nine different external funding sources.

Project action

A project to provide training in areas of high priority for agricultural sector organizations, operating as part of the National Agricultural Training Program (PNCA), concentrated on specific subject areas. The most important was education in technology transfer, followed by computer science and agricultural documentation and information.

IICA supported the Colombian Agrarian Reform Institute (INCORA) in staff training, under an IICA/INCORA/World Bank agreement. Eight courses for 193 participants were held, seven in Bogota and one in the city of Santa Marta. Educational text materials were carefully selected prior to these courses and distributed to participants. Subject areas included agricultural marketing, farm management and agricultural extension.

The CENICAÑA Sugar Cane Research Center received support from a specialist in sugar cane agronomy, and administrative services were provided for implementing the Center's laboratories and field experiments. This Center operates an agronomy program that carried out research on water and soil management, plant nutrition, fertilization, sugar cane quality, and agricultural mechanization.

A project to strengthen the promotion and development of agroindustry in the various institutions led to a request to prepare an agroindustry development plan for the department of Quindio. A technical cooperation agreement for this plan is now under study, and the Ministry included the item among the areas for negotiating possible contracts with IICA.

The Institute cooperated in the DRI-PAN Program in the area of marketing. There, it completed a study on food distribution and terminal markets in the departments of Santander, Norte de Santander and Boyacá. With this study, the project helped the DRI Fund prepare a credit application and submit it to IFAD, where it is now being considered for approval.

Activities to strengthen the public agricultural sector in Colombia in the areas of planning and management for agricultural and rural development included completion of a study with the Institute of Hydrology, Meteorology and Land Improvement (HIMAT) on methods for preparing an annual plan of operation. The same task was performed with INCORA, working at the national and regional levels with staff members to apply and improve mechanisms for planning, follow-up and evaluation. IICA continued to cooperate with the different departments of the Agricultural Sector Planning Office (OPSA).

Assistance was given for strengthening the National Information Subsystem in the Agricultural Sciences (SNICA), and the Rodrigo Peña Library received special support. In this connection, the AGRINTER and AGRIS data base was installed and updated with assistance from IDRC. Work with the ICA focused on selective dissemination of information and retrospective information search. Publications were produced and user services provided by the library.

IICA was also active in plant protection, working with the Plant Protection Department of the ICA through a plant quarantine course that provided comprehensive training to all staff members engaged in quarantine activities in ports and airports. An international course was given on integrated pest management and plant

epidemiology, with the cooperation of professional agronomists and research specialists from the ICA responsible for pest epidemiology, control, identification and evaluation. Classroom material covered the fields of epidemiology, disease evaluation, sampling scales and methods, models for damage assessment and for quantifying epidemics, and strategies for establishing a computerized plant protection information system. This training course also provided an opportunity to examine the possibility of establishing an information system for the countries of the Andean Area, and recommendations were made in this regard.

Support for the Colombian Agricultural Institute in Organization and Administration of Research and Technology Transfer*

The government has adopted certain policies to revitalize the agricultural sector, such as increasing production and productivity. The major tool for this is agricultural research. Technology generation and transfer processes need to be strengthened, and ICA therefore adopted the National Agricultural Research Plan (PLANIA). The government adopted this plan as a high-priority

* Please refer to footnote on page 10.

program, and approved a World Bank loan of nearly 64 million dollars for funding the development of Project I, research and extension.

This line of action included twelve working meetings with staff members from the World Bank and the ICA, resulting in the formulation, approval and implementation of the 1986 Plan of Action under the IICA/ICA Technical Cooperation Agreement, which began in July, 1986.

In the following six months, 60 offers for consultancy contracts were extended, 35 contracts were signed, including complete terms of reference, a data bank of consultants was organized, and support, follow-up and supervision services were provided for 12 consultants who had been hired. ICA received 12 reports from completed consultancies.

The period also saw the provision of advisory services to ICA managers for developing a plan of action to implement the PLANIA, with international technicians of the highest level.

The project, in its six months, directly benefited 193 ICA staff members. Relations were established with 12 national and international organizations located outside of Colombia. Three seminars were organized on cacao improvement, combustion for sugar cane production and plant toxicology. Nearly all financial resources programmed for the semester were used.

COLOMBIA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Strengthening the Public Agricultural Sector of Colombia in Planning and Management for Agricultural and Rural Development	Improve managerial skills in the Ministry of Agriculture and associated entities for proper guidance of the agricultural and rural development process.	Methods prepared for the annual plan of operation of HIMAT and INCORA. Work done on improving them for application at the national and regional levels of planning, follow-up and evaluation.	OPSA/ MINAGRI	228 634 2 766	84 700	316 100

COLOMBIA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Strengthening the National Information Subsystem in the Agricultural Sciences (SNICA)	Consolidate the subsystem and the national network of agricultural documentation centers and establish the AGRINTER methodology in the network.	AGRINTER and AGRIS data base updated. 23, 299 users benefited. 39 technical documents published.	IICA/IDRC IICA/ MINAGRI	21 000 27 471	96 200	144 671
Training in Areas of High Priority for Agricultural Sector Organizations (National Agricultural Training Program-PNCA)	Organize and carry out complementary training actions for technicians of agricultural organizations.	Training provided in technology transfer, computer science, agricultural documentation and information.	IICA/ PNCA	139 779	0	139 779
Support for the Colombian Agrarian Reform Institute (INCORA) in Staff Training	Train and organize study trips for INCORA staff members.	INCORA staff trained in agricultural extension, farm management and credit management, marketing and agroindustry to encourage revitalization of agricultural production.	IICA/ INCORA	344 080	0	344 080
Support for the Colombian Agricultural Institute in Organization and Management of Research and Technology	Help develop present ICA institutional model.	Operating agreements underway for scientific brokerage to carry out PLANIA.	IICA/ ICA	612 000	54 000	666 000
Support for the CENICAÑA Institutional Research Model	Strengthen physical and biological research of sugar cane and establish AGRINTER methodology in the network.	Laboratory installed and field experiments begun with a specialist in sugar cane agronomy.	CENI- CAÑA	60 582	0	60 582

COLOMBIA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Resources Amount	Resources IICA	Resources Total
Support for the DRI-PAN Marketing Program	Strengthen analytical and operating capabilities in marketing for PDRI.	Study completed on food distribution and terminal markets in the departments of Santander, Norte de Santander and Boyacá. Base document prepared for requesting IFAD credit.	DRI-PAN	100 000	0	100 000
Support for the Livestock Sector in Guidance of the Development Process Based on the Use of Native Breeds	Improve managerial effectiveness in the Colombian livestock sector to achieve proper guidance of the development process.	Project prepared on institutional strengthening to increase livestock productivity in Colombia based on use of Creole and native breeds.		0	76 300	76 300
Strengthening Agroindustry Promotion and Development	Strengthen capabilities for planning, programming and identification of agroindustry projects in public and private entities.	Request made for preparing agroindustry development plan for department of Quindío. Technical cooperation agreement under study.		0	84 900	84 900

ECUADOR

The IICA office in Ecuador carried out two projects in 1986 in the area of technology generation and transfer, one to support management of the National Agricultural Research Institute (INIAP) and the other to evaluate tropical grasses. Two projects were conducted in the area of planning, the first for preparation of basic studies and agricultural projects to be carried out by the

public and private sector, and the second for preparation, implementation and evaluation of policies and action plans in the Ministry of Agriculture and Livestock (MAG). One project took place in organization and management for rural development, along with the following five short-term actions: support for PROTECA, a microbusiness development program of the Ministry of Labor and Human Resources, an Amazon documentation center of the Ministry of Foreign Affairs, formulation of a project on alternatives for replacing sugar cane in the Junquilla Valley (carried out with

CREA), and support for the Agricultural Strategy Institute (IDEA) in formulating projects for external funding.

This technical cooperation took place with regular Institute resources and external funding from the government of Ecuador, IDRC/Canada, and agreements between SEDRI and AID and between SEDRI and the IBRD.

The IICA office in Ecuador strengthened its technical cooperation relations with agricultural sector institutions in 1986 and has increased its support services. Work took place with various departments of the Ministry of Agriculture and Livestock, the Ministry of Foreign Affairs, the Ministry of Social Welfare, Labor and Human Resources, the Ministry of Finance and Public Credit, and the Ministry of National Defense. Activities were also conducted with the National Development Council, the Pichincha Provincial Council, INIAP, the Manabi Rehabilitation Center, the Center for Economic Conversion of Azuay, and the Ecuadorian Foundation of Agricultural Research.

IICA acted in coordination with the following international and bilateral agencies: AID, IDB, OAS, the Andean Development Corporation, the International Center for Tropical Agriculture (CIAT), FAO, UNDP and IDRC/Canada.

During the year, the office in Ecuador signed and carried out four legal agreements with the Ministry of Social Welfare to support the Integrated Rural Development Program. An agreement with IDRC and INIAP covered tropical grassland management, and support for PROTECA appeared in agreements with the Science Foundation and the Ministry of Agriculture and Livestock.

IICA action directly benefited 583 public officials and farmers and was of indirect benefit to over 800 people. Thirty-three documents were published during the period, and 21 national and international consultants were hired to carry out specific project activities. Ecuador received visits from 12 Institute staff members from other offices, to support projects.

Project action

A project to assist INIAP in managing agricultural technology generation and transfer in Ecuador provided direct advisory services in project preparation and guidance. Subject areas included production potential in the Ecuadorian highlands (Santa Catalina and Cayambé), evaluation of feed grasses from the upper Andes,

dairy production in the dry tropics, hybridization and management of double-purpose cattle, and methodological issues in pasture management evaluation.

The office also supported a process of institutional restructuring and the preparation of a national livestock research plan. For this purpose, experimental information was collected, reviewed and analyzed independently for the three areas of the country (the coast, the mountains and the eastern jungle). A study was conducted of a multinational project on natural grasslands. A survey was held on the Ecuadorian coast to determine the situation of agriculture, and this information provided a basis for preparing a comprehensive plan for livestock research and development in the zone.

IICA contributed actively to several conferences and meetings. It organized a workshop on milk production on the Ecuadorian coast and was present at the First International Seminar on Double Purpose Cattle Production Systems in the Tropics and the Eighth Veterinary Field Day to be held in Ecuador.

Advisory services were provided to the National Agricultural Insurance Corporation (CONASA) concerning livestock production in the country. Various farmers and specialists received assistance with animal production and grassland management.

IICA supported a project on evaluation of tropical grasses in Ecuador, conducting a regional survey and a statistical study of production systems used in Ecuador's low-lying jungle (Napo province). Other major actions included evaluation of the adaptation, persistence and production of grass and legume species; evaluation of grasses grown alone and in association with legumes; selection of grazing species with potential for improved beef production; effects of phosphorus fertilization in low jungle grasslands; selection and determination of varieties resistant to salvazo; and in-service training for two Ecuadorian technicians.

Basic studies and agricultural production projects were prepared for implementation by the public and private sectors. As part of these studies, research took place on bean cultivation on the Ecuadorian coast, and a program was prepared for production and promotion of this crop, with the participation of farmers, extension agents and researchers of the zone. A study of the coconut crop revealed problems with certain diseases, and plant protection officials were sent documentation concerning effective control methods.

The office helped promote the production of roots and tubers and prepared programs with the private sector. A training course on cassava was attended by technicians, producers and industrialists. CIAT provided its support in setting up farmer organizations specialized in natural drying of cassava, and the proceedings of the First Course on Cassava were prepared.

A study was carried out on the situation of Andean crops in the country, at the request of the Undersecretariat of the Highlands. An international seminar was held to study the problems and prospects for these crops, and led to a national program and publication of proceedings from the course.

The Undersecretariat of the Coastlands requested IICA to give a course for promotion and training in tropical root and tuber crops, emphasizing ginger and turmeric for export. As a result of this course, a series of audiovisual presentations was produced for technology transfer in the country.

The IICA office assisted with integrated rural development projects of the government of Ecuador. Three action units received assistance in project management, while seven were supported in marketing. Four project proposals were developed for this purpose, and the process of obtaining funding began. These projects will cover the following subjects: the eastern watershed of the Shio river; food supply tents; alternatives for replacing sugar cane crops in the Yunguilla valley; and a project profile for the Quimiag spray irrigation district.

Support was provided in project administration for the action units of the projects in Jipijapa, Quininde and Puerto Ila-Chone. IICA also provided marketing assistance for projects in Quimiag, Salcedo, Santa Isabel, Cañar, Jipijapa, Puerto Ila-Chone and Quininde.

An agreement was prepared between the Ministry of Social Welfare and Outreach and IICA for providing technical cooperation to the Guamote rural development project. Nine documents were published on methodological experiments. Assistance was provided to the central office of the Directorate of Rural Development through the preparation of various documents on project management. Other areas of attention included a credit project in Puerto Ila-Chone and Quininde, marketing in Jipijapa, and seed multiplication in Quimiag.

Policies and program activities included participation in preparing organizational and operational regulations for MAG.

Outreach and training concentrated on the use of operating programs to improve the MAG system of follow-up and evaluation. This work was done together with a team from PROTECA, so that the results would be well coordinated.

IICA continued to work with the National Development Council (CONADE) to support an interinstitutional commission on follow-up and control of inflation in the areas of agricultural and economic policies. Meetings were held and technical support documents were prepared.

The following short-term actions were carried out to meet urgent needs in the sector:

- The program of microbusinesses in the Ministry of Labor and Human Resources received technical assistance in the area of agriculture and rural development. Support was provided to the program directorate in shaping a conceptual framework for microbusinesses in the rural sector, defining project clientele and their relationships with the beneficiaries of other rural development programs, designing a typology of projects in the sector, and preparing proposals for cooperation to strengthen the program.
- Agricultural information and documentation was the object of a request by the Ministry of Foreign Affairs to prepare a project for creating a center for documentation and information on the Amazon, with possible funding from the IDRC in Bogota.
- An agreement was signed with the Ciencia Foundation in August, 1986 to support studies by the Agricultural Strategy Institute (IDEA) for formulating an externally funded project on extension and research (Kellogg Foundation Seminar) and for a communications center (IDRC). Support was also given for preparing a frame of reference and giving follow-up and evaluation on the following private sector agricultural studies conducted by national consultants:
 - a) Production costs for highlands cultivation of potatoes, milk, beef cattle, sheep, swine and poultry.
 - b) Market studies on rice, feed corn, soybeans and sorghum.
 - c) Setting of research priorities for the private sector.
 - d) Production costs for coastal cultivation of rice, feed corn, soybeans, plantains and cassava.
- An article was prepared on the present status and future prospects for cacao in Bolivia, Peru, Ecuador, Panama, Colombia,

Venezuela, Costa Rica, Nicaragua, Honduras and Guatemala. A second article was written on the overall situation and outlook for cacao crops in Latin America.

Support was given for preparing project profiles that would strengthen INIAP capabilities in programming, implementation and evaluation of research, and provide MAG with training in plant protection.

Programs for plant protection were coordinated to reduce the incidence and prevent the spread of pests, diseases and weeds of crops. A national plan for the prevention of black sigatoka of banana and plantain was reviewed and modified, as were plans for coffee berry borer and coffee rust.

The MAG National Plant Protection Program received support in the form of a national seminar on black sigatoka, with the following results: a) training in identification, surveillance, epidemiology, sampling systems and plant quarantine for black sigatoka; b) analysis of the national prevention plan for black sigatoka, with participation by managerial, research and field personnel; and c) preparation of instructions, publicity material and forms for field activities.

Various actions took place in animal health to support services in the highlands and coastal areas. An important support activity in Ecuador was the preparation of plans for implementing a project for eradication of classic swine fever.

Support for the Ministry of Agriculture and Livestock in Preparing PROTECA*

IICA cooperated with the Inter-American Development Bank (IDB) and with the Ministry of Agriculture and Livestock of Ecuador in preparing a project to strengthen agricultural research and technology at the national level.

The IDB announced approval of a loan for \$ 46.3 million to Ecuador for carrying out this project, known as PROTECA. The objective is to provide incentives for production in the sector. Total project cost is estimated at \$ 61.7 million, of which the Bank will cover 75 percent, and the Ecuadorian government, the remaining 25 percent.

The project will strengthen institutional capabilities in INIAP for establishing a plan of agricultural technology transfer to improve production, certify and distribute improved seed, and train personnel.

Preparation of the project was coordinated by the Institute's Investment Projects Center (CEPI). The IICA office in Ecuador assisted PROTECA with construction and project infrastructure, training MAG extension agents, and in-service training for PROTECA authorities who visited Costa Rica, Colombia and Panama. IICA also assisted in the evaluation of a survey of the present system, conducted prior to the implementation of PROTECA.

* Please refer to footnote on page 10.

ECUADOR						
Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Amount	Resources IICA	Resources Total
Support for the Project on Tropical Grassland Evaluation in Ecuador	Evaluate the adaptation, tolerance to grazing and efficiency of grasses and train personnel in grass management and utilization.	Several species of grasses and legumes evaluated for adaptation, tolerance and production. Regional Survey conducted and statistical diagnosis performed of production systems.	IDRC/Ev. Tropical Grasses	30 000	0	30 000
Technical Cooperation for the Integrated Rural Development Program (PDRI)	Help with structural and operating consolidation of SEDRI and PDRI action units.	Three action units supported in project management and marketing, four projects prepared, nine documents published and twelve consultants hired.	SEDRI/AID SEDRI/WB MAG	122 243 208 127 2 889	56 126	389 385
Support for INIAP Management in Agricultural Technology Generation and Transfer	Strengthen technical and administrative capability in INIAP for agricultural research and technical assistance.	Studies, surveys and diagnosis performed for establishing the livestock research program on the Ecuadorian coast, approved by INIAP.		0	73 100	73 100
Preparation of Basic Studies in Projects on Agricultural Production to be Carried Out Jointly by the Public and Private Sectors	Cooperate with sectoral institutions in preparing basic studies by product line, that would generate production projects to help improve agricultural production and productivity.	Assistance provided in improving capabilities for identifying and analyzing problems and finding ways to solve them. Integrated training methods defined for crops with participation of public and private sectors.		0	61 500	61 500

ECUADOR Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for the Ministry of Agriculture and Livestock in Preparation, Implementation and Evaluation of Policies and Action Programs	Strengthen effectiveness of MAG units for preparation and implementation of policies and programs for the sector.	Implementation of organizational regulations for MAG. Diagnostic study performed on training of MAG technicians. Personnel trained.		0	68 700	68 700
Support for PROTECA	Expand and update the component of construction and infrastructure of PROTECA.	Engineering designs and infrastructure completed. Technical and financial support given to training courses for personnel working in PROTECA.		0	13 000	13 000

PERU

The IICA office in Peru carried out 11 technical cooperation actions during 1986. Resources derived from Member State quotas and external sources, especially the Canadian International Development Research Centre (IDRC), the Secretariat of Agriculture and Livestock of Chile, and the national agencies of the Peruvian agricultural sector, including the Ministry of Agriculture and the Puno Department Development Agency (CORPUNO).

IICA action in Peru during this period took place through dialogue with national agencies and focused on analysis and planning of agricultural policies (support for guidance of micro-

regional development in Melgar, and an IICA/IDRC cooperative project to introduce and disseminate the use of AGRINTER and AGRIS data base systems in the countries of Latin America and the Caribbean), technology generation and transfer (technical cooperation to strengthen agrarian research in the Peruvian jungle, strengthening Peruvian institutions for higher agricultural education, and postharvest management of Andean crops), marketing and agroindustry (support for the Ministry of Agriculture in marketing systems) and animal health and plant protection (region-wide projects for support of plant protection programs in the countries of the Andean Area and technical cooperation for the prevention, control and eradication of animal pests and diseases in Peru).

The IICA office in Peru expanded and strengthened its technical cooperation relations with eight national institutions of the agricultural sector, six national organizations associated with the sector and 13 regional and international agencies. Five legal documents for interinstitutional technical cooperation were negotiated and signed during the year.

One of these documents, a technical cooperation agreement between Peru and Chile for the eradication of Mediterranean fruit flies in the border zone between of the two countries, made a substantial contribution to improving bilateral cooperation between agencies of the agricultural sector in these two Institute Member States.

IICA action in 1986 provided direct benefit to over 2,200 staff members from agricultural sector institutions and published and distributed 46 documents on projects carried out during the period. Thirteen national and international consultants were hired to perform specific tasks and activities in these projects.

Project action

IICA worked to strengthen institutions of higher education in Peru, cooperating directly with seven universities (six in the interior and one in the capital) to provide 27 teachers, specialized in agricultural engineering, with training in educational methods.

IICA was also active in agricultural documentation and communication, helping to train 31 university professors and specialized personnel from ten universities in the capital and the interior.

A course was taught in the graduate school of San Marcos University, attended by 35 veterinary doctors and specialists in animal production from six state-run and privately owned universities and institutions. They learned principles of management for livestock enterprises.

Rural construction was the focus of studies on postharvest handling of Andean crops. Reservoirs were built for washing quinoa, a portable solar dryer was completed, and improved methods were developed for stored and processed quinoa and tarwi. Improvement were also made in irrigation channels, placement of water flow for feeding the reservoirs, and construction of a water-driven grain mill.

A thresher being used to clean quinoa in Cuzco and Puno was evaluated, as were improved storage methods for potatoes, oca and

mashwa. Chemical and microbiological analysis was performed of processed potato starch (*moraya*), partially dehydrated potatoes (*chuño*) and frozen *isaño* root (*tayacha*). Finally, IICA helped instruct 35 technicians, community farmers and professionals in different facets of postharvest research for Andean crops in Cuzco.

Technical cooperation to strengthen agricultural research in the Peruvian jungle focused on the National Agricultural Research and Outreach Institute (INIPA). There it helped institutionalize a procedural model for improving organization and working strategies for agricultural technology generation and transfer, both centrally and in decentralized agencies known as CIPAs.

IICA worked closely with INIPA technicians in formulating and guiding technological research projects based on diagnostic studies of farming systems. Over 160 INIPA professionals were trained in research organization and guidance and technology transfer, using the concept of agricultural production systems.

INIPA and the Research Institute of the Peruvian Amazon (IIAP) received assistance in formulating, carrying out and evaluating a network of projects on agricultural production systems in the jungle. Finally, INIPA received assistance in the field of agricultural communication, targeting farm producers as well as executives responsible for formulating technological development policies in the country's agricultural sector.

Support was provided in conducting microregional development in Melgar. Authorities from the Ministry of Agriculture and the Puno Departmental Development Agency (CORPUNO) received proposals of new mechanisms and instruments useful in achieving consensus on operating decisions, so as to improve effective guidance of the microregional development process.

Methods developed by IICA for preparing the guidance framework, doctrinary framework and management operating summary were adapted and tested in the microregion of Melgar, Puno. Training was provided for 83 staff members, farmers and authorities in the Puno microregions, in various facets of microregional organization and management.

The IICA/IDRC multinational project to introduce and disseminate the use of AGRINTER and AGRIS data base systems worked with the computer center of La Molina National Agrarian University, where it installed the ISIS Agricultural Information and Documentation packet for the AGRINTER and AGRIS data bases. Fourteen national specialists improved their ability to index and

prepare profiles of interest to information users. They also learned about administering and maintaining the ISIS packet and designing and managing bibliographic data bases. As a result, 54 profiles of interest were prepared for users of the National Agricultural Library (BAN) of the La Molina National Agrarian University.

Unconventional documents produced in Peru on the agricultural sector and related subjects were selected, analyzed and processed. As a result, CIDIA received over 2,300 bibliographic input sheets, and 163 users received quarterly reports of 300 tables of contents on 12 selected subjects. Retrospective information search was used to meet requests from users from the BAN and the La Molina National Agrarian University. Twenty brief bibliographies were prepared on special items requested by national and international entities.

Support was provided for training 185 professionals in the area of the plant protection. Field studies were held on methods for damage assessment, biological control and epidemiology of different pests. Finally, the Plant Protection Office of the Ministry of Agriculture of Peru received assistance for the Second National Meeting for Application of the Code of Behavior on Pesticide Use.

The Mediterranean fruit fly control program in Chile and Peru received special attention. IICA identified and dealt with problems of shared interest to these two Member Countries. The Regional Technical Committee for Plant Protection in the Andean Area, through its Unit of Harmonization of Criteria, provided a mechanism for multinational coordination. The project encouraged technical leadership by anticipating the needs of each country, channeling cooperation to meet shared objectives through field action, evaluating results, and promoting technological and information exchange. Several documents were prepared in this field. The first examined the situation of the Mediterranean fruit fly in Peru and Chile. Another was a feasibility study concerning a joint campaign in the area of Arica and Tacna. Finally, a formal project profile was prepared on the joint campaign to flight the Mediterranean fruit fly in the border area of Tacna and Arica.

The technical cooperation project for the prevention, control and eradication of diseases and pests affecting animals of high priority in Peru assisted the country in preparing an animal health project profile. Participation was forthcoming from technicians of the General Office of Agriculture and Livestock (DGAG) of the Ministry of Agriculture.

The Ministry of Agriculture received support and technical assistance in prevention and control of health problems holding special importance for the country's livestock herds. In this context, cooperation was provided in carrying out control and eradication campaigns for tuberculosis and bovine brucellosis in the dairy areas of southern Peru. Finally, the Office of Livestock Health of the Ministry of Agriculture received assistance in organizing diagnostic services, based on infrastructure already available.

Support for the Ministry of Agriculture in Marketing Systems *

The IICA office in Peru cooperated with the Agrarian Sector Planning Office (OSPA) of the Ministry of Agriculture in formulating a document to set marketing policies for the Medium Term Development Plan for the Peruvian Agricultural Sector (1986-1990). This document includes chapters on diagnosis, a conceptual framework, the institutional basis, general strategy, marketing infrastructure, agroindustry, and information sources.

The project also worked with the National Institute for Input Marketing (ENCI) in evaluating storage infrastructure for grains, dry vegetables and perishable products on the coast, in the mountains and in the jungle. Recommendations were made for a training program on the design, construction and operation of silos and rural storage depots. This work took place with the cooperation of the National Storage Depot Corporation (ANDSA) of Mexico.

Special support was received from Mexico through three storage and marketing agencies (CONASUPO, IMPECSA and ANDSA). This enhanced various project activities for formulation and administration of support prices, an integrated system for agricultural product marketing (PROCOMPRA) and an evaluation of storage infrastructure conducted by ENCI.

The project also provided technical cooperation for the National Development Institute (INADE) in performing diagnostic studies of marketing problems and putting forth strategies to solve them, particularly in the Majes/Sihuas irrigation district. The Peruvian

* Please refer to footnote on page 10.

Institute of Foreign Trade received assistance in developing a document to support mercantile export operations and imports of supplies. The National Development Foundation received assistance in designing methods of formulating projects for nontradi-

tional agricultural exports. Finally, La Molina National Agrarian University was assisted in developing a research model on real costs of tomato production and marketing in the central coastal area of Peru.

PERU Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Research Project on Andean Crop Systems	Evaluate germplasm, develop methods, and test crop systems with farmers in the Andean region.	Andean farming systems described and studied. Alternatives evaluated for improving systems.	IDRC/ CANADA	73 924	0	73 924
Processing Andean Crops in Peru	Identify and describe post-harvest activities for Andean grains and tubers and train personnel in the process of technology adoption.	Marketing study on Andean crops completed among merchants and producers. Eight infrastructure projects completed for crop processing. Training provided for 820 technicians from the project and farmer communities.	IDRC/ CANADA	49 542	0	49 542
Intensification of Mediterranean Fruit Fly Control Campaign in the Border Area of Peru and Chile	Protect and promote development of fruit cultivation, an important economic activity of the border zone.	IICA/INIPA Agreement signed. Contribution received from government of Chile. Medfly control begun.	SAG/ CHILE	29 440	0	29 440
Technical Cooperation to Strengthen Agricultural Research in the Peruvian Jungle	Help strengthen agricultural research in the upper and lower jungles of Peru.	Procedures institutionalized for improving organization and strategy. Over 160 professionals trained.		0	127 327	127 327
Support for Guidance of Microregional Development in Melgar	Improve directive mechanisms for entities in charge of microregional development.	Interinstitutional support team set up with participation of public sector and farmers. Four training activities given for 161 beneficiaries.	CORPUNO	9 991	77 338	87 329

PERU Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Cooperative IICA/IDRC Project to Introduce and Disseminate Use of AGRINTER and AGRIS Data Bases in Latin America and the Caribbean	Install and maintain programs for information retrieval and provide direct user services.	ISIS/CDS and modified ISIS programs installed. Profiles of interest, tables of contents, and short bibliographies distributed to 50 direct bene- ficiaries.	IDRC/ CANADA	25 000	0	25 000
Strengthening Peruvian Insti- tutions of Higher Agricultural Education	Cooperate with UNA-La Mo- lina and the School of Veterinary Medicine of UNMSM in developing teach- ing, research and extension activities for agriculture, live- stock and forest production.	Training given to 93 instruc- tors in ten universities in teaching methods, documen- tation and agricultural com- munication.		0	57 041	57 041
Support for the Ministry of Agriculture in Marketing Systems	Develop technical basis for policies, design operating alternatives, formulate strate- gies, provide training mecha- nisms to support national agricultural marketing system.	Document prepared on mar- keting policies for inclusion in the Medium Term Develop- ment Plan for the Peruvian Agricultural Sector (1986- 1990).		0	76 331	76 331
Technical Cooperation for the Prevention, Control and Eradication of Diseases and Pests Affecting High-Priority Animals in Peru	Strengthen animal health di- agnostic laboratories and sup- port guidance of livestock development projects.	Assistance given for improv- ing managerial skills in the Livestock Health Office of the Ministry of Agriculture. Training provided for 50 staff members.		0	80 656	80 656

VENEZUELA

The IICA office in Venezuela focused its actions in 1986 on planning, technology generation and transfer, organization and management for rural development, marketing, plant protection, and animal health. In total, it implemented eight technical cooperation actions in conjunction with other agricultural sector organizations in the country.

Special mention should be made of activities for strengthening extension, training, and dissemination at the Agronomy Department of the Central University of Venezuela; reorientation of technology generation and transfer by official organizations; support for the General Office of Irrigation in the Ministry of Agriculture and Animal Husbandry (MAC); reinforcing the Animal Health Program of the General Office for Livestock Development of MAC; support for the MAC-FONAIAP-FCA Beef and Dairy Production Program; support for the Agricultural Credit Fund (FCA) in its efforts to plan operations and establish a national credit program for agricultural marketing and agroindustrial development; support for the Agricultural Development Program in High-Priority Areas; and the National Agricultural Information Network (REDIAGRO).

During this period, the IICA office in Venezuela carried out a total of 43 activities benefiting 2,129 staff members from national agricultural organizations. These activities were made possible with the participation of 122 cooperating agents, 56 lecturers, 25 national and international consultants, and specialists from the Institute. In 1986 the office published and distributed 17 official documents regarding projects under implementation and signed three agreements with the FCA, the University of Zulia and the Central University of Venezuela (UCV).

The office maintained official relations with the Ministry of Foreign Affairs, the Ministry of Agriculture and Animal Husbandry; the Ministry of the Environment and Natural Resources, the Ministry of Science and Technology, the Ministry of Energy and Mining, and the Coordination and Planning Division of the Office of the President (CORDIPLAN). The office also provided technical cooperation to the National Council for Scientific and Technological Research (CONICIT), the National Agricultural Re-

search Fund (FONAIAP), eight universities, and other organizations working for agricultural development.

Project action

IICA supported MAC actions to carry out an operational reorganization of technology generation and transfer in official organizations. Special emphasis was placed on the Program for Crop Diversification in Coffee Growing Areas (PDCAC), with positive results. This project was given high priority in light of the threat posed by the spread of coffee rust, with its anticipated social and economic impact. Solutions are being developed to meet the needs of 30,000 to 40,000 families currently farming coffee in zones poorly suited to this crop. The alternatives are to provide them with new crop options or to find ways of intensifying cultivation of coffee, an export product in danger of disappearing. This project, which typifies a new form of interinstitutional integration, introduces new procedures for credit management. It also serves as a test of systems to unify technical assistance, in accordance with the National System for Technical Cooperation currently in use.

Technical support was provided to the MAC General Office of Irrigation (DGSR) in preparing draft regulations for irrigation systems constructed with public funds. The purpose was to bring together all existing national project regulations. Specific draft regulations were developed, in conjunction with DGSR specialists for high-priority irrigation districts in Bocono and El Cenizo. This work was completed with the drafting of methodological standards and other instructions designed to facilitate the adoption of proposed administrative regulations. Finally, 91 DGSR managers, professionals and technicians received special training to raise their awareness of the country's irrigation problems.

The Institute also provided support to the MAC-FONAIAP-FCA Beef and Dairy Production Program. The project is located in the state of Zulia, which has a large population of native dairy cattle. Significantly, the project was implemented with the participation of the private sector.

Research actions to improve local stock have gathered enough data to perform a careful selection of breed cows. This will help FONAIAP and MAC initiate actions on a commercial scale. The demand for frozen semen at the Loral Experimental Station has been greater than expected. This, coupled with the availability of

tests for bulls, will favor the spread of the program to improve local dairy cattle breeds.

IICA has cooperated with the FCA in operational planning and the establishment of a National Credit Program for Agricultural Marketing and Agroindustrial Development. This project developed a dynamic approach that led to a short-term action for restructuring the operations of the Agricultural Credit Fund. Financial support for this project was forthcoming from the Institute's General Directorate, and the short-term action is now well under way. The FCA has requested increased cooperation actions, and this could lead to the placement of a credit specialist in Venezuela during the coming years.

The UCV project to strengthen agricultural extension, training and scientific dissemination found it necessary to postpone studies on implementing a training program in extension. Nevertheless, the country presently has an acute need for extension agents for PRODETEC, MAC, and for private sector activities to strengthen technology transfer programs. Even so, the project helped strengthen the UCV Agronomy Department by providing technical cooperation in formal education.

IICA continued to support the work of the National Agricultural Information Network (REDIAGRO), reinforced by the IICA/IDRC Agreement to facilitate the operation of the IICA/CONICIT Agreement that will encourage information use. This provides an opportunity to develop closer ties with institutions such as CONICIT, which is working to strengthen the agricultural section of its Information Center. This information project has important implications since the network is a channel for direct contact with most of the agronomy departments and other documentation centers in the country.

IICA supported the Animal Health Program of the MAC General Office for Livestock Development. Four national professionals, financed with external resources, are now working in separate units. Disease diagnoses were conducted in each geographic area

covered by the agreement. Other actions include animal health training for national personnel and increased dissemination of information resulting from the work conducted under the agreement.

The program has focused on brucellosis, tuberculosis and bovine rabies. External consultants have developed support actions in selected areas; similarly, steps were taken to strengthen the Diagnostic Laboratory Network in the country.

Support for the Plan to Develop and Diversify Production in Coffee Growing Areas *

This project, which began in 1986, focused its action on planning, information systems, and credit. In the area of planning, methodologies were developed to create annual operating plans; 17 were drafted for coffee growing areas for 1986 and seven for 1987.

A system was designed for follow-up and evaluation of operations. Strategies and methodologies were developed to process and grant integrated credit at the farm level. During the course of the year, a total of 300 credit projects were processed.

The project provided advisory services for the cadastre; implemented a seminar on coffee rust and berry borer; made travel arrangements for seven national specialists to go abroad; developed methods of preparing annual operating plans for high-priority development areas; and helped draft import substitution plans for agricultural products effected by shortages.

In 1986 the project trained 533 national specialists through 28 workshops.

The government of Venezuela has assigned special priority to this project and allocated considerable financial resources to ensure its implementation.

* Please refer to footnote on page 10.

VENEZUELA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Support for the National Agricultural Information Network (REDIAGRO)	Install and maintain programs to gather information and provide direct user services.	REDIAGRO actions reinforced with support from the IICA/IDRC agreement. Documentation Center strengthened in agriculture.	IDRC/ CANADA	18 840	21 625	40 465
Support of FCA in Planning Operations and Establishing a National Credit Program for Agricultural Marketing and Agroindustry Development	Contribute to the reactivation of agriculture and food supply systems by modernizing credit operations.		FCA	50 379	71 741	122 120
Strengthening the Animal Health Program of the MAC General Directorate	Strengthen the technical and administrative organization of veterinary diagnostic laboratories and support the implementation of programs for control and eradication of animal diseases.	Four units put into operation. Diagnoses completed in all areas. Personnel trained and information disseminated.	MAC (Animal Health)	332 217	0	332 217
Strengthening Agricultural Extension, Training and Scientific Dissemination at UCV	Improve training in agricultural extension and provide technical assistance to the department to reinforce its ties with the agricultural sector.	Analysis performed of a training program in agricultural extension.		0	38 300	38 300

VENEZUELA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Functional Reorientation of Technology Generation and Transfer in Official MAC-FONAIAP Agencies	Support FONAIAP in testing research at the farm level and assist MAC-FONAIAP in the dissemination of technology	New methods introduced for interinstitutional integration. New credit management systems installed. The project will benefit 30 000 to 40 000 coffee growers in marginal areas.		0	36 100	36 100
Technical Support to the General Office of Irrigation in Providing Services for Operating, Conserving and Managing Irrigation Projects	Cooperate with DGSR-MAC in the operation, conservation and administration of public irrigation projects to support intensive agricultural activities.	Draft regulations prepared for irrigation systems constructed with public funds, combining legislation and specific regulations for the Bocono and El Cenizo irrigation districts. 91 DGSR managers trained.		0	93 200	93 200
Support for MAC-FONAIAP Program for Beef and Dairy Production	Increase livestock productivity and production using native cattle breeds.	Action concentrated in the state of Zulia with private sector participation. Tests on bulls completed. Heavy demand for frozen semen.		0	75 000	75 000
Support for the Agricultural Program in High-Priority Areas	Strengthen mechanisms for planning and implementation fo integrated rural development. Generate methodologies and instruments.	Annual operating plans formulated for coffee growing states. Information system designed. Mechanisms developed to streamline processing and granting of credit. Methodologies and procedures designed for conducting the cadastre.		0	82 100	82 100

Southern Area

The countries of the Southern Area (Argentina, Brazil, Chile, Paraguay and Uruguay) register socioeconomic indicators typical of a highly diverse geographic and economic region. This heterogeneity among the countries is evident in levels of economic and social development and vitality, cultural wealth, the endowment of natural resources, degree of industrialization, size of the industrial market, and technological development.

A number of common traits shared by these countries can also be pinpointed, especially in terms of the problems affecting them. The most striking is the external debt. Also important are market dependence on more industrialized countries, especially in agriculture, and the need for external financing to promote development. Finally, all the countries have certain technological shortcomings in different sectors.

Relative homogeneity can be found in the agricultural sector, as the similar problems have common origins. The first group of problems can be traced to historical processes linked to the style of colonization originally practiced in these countries. It led to the development of flawed agrarian structures characterized by latifundia, minifundia and dual production structures, with commercial agricultural enterprises, generally producing for export, living side by side with small-scale producers meeting the domestic demand for food and raw materials. These small farms suffer all the disadvantages of fragmented production, lacking their own product marketing mechanisms and access to conventional policy instruments (financing, prices, and technology).

These structural problems often inspire agrarian policies that give high priority to small-scale production through activities to promote development. Such activities may or may not include measures to correct the structure of land tenure. Most of the countries of the area in 1986 tended to allocate more resources and higher priority to low-income groups of rural producers.

Other kinds of problems derive from relations between the agrarian sector and other sectors of the economy, both local and international. They are the product of structural deficiencies such as the high cost of intermediate channels that make products available for domestic consumption and export. Many problems

interfere with sustained growth in the rural sector. More industrialized countries have placed downward pressure on domestic farm prices so as to maintain the purchasing power of urban workers, and at the same time, the countries of this area have witnessed systematic declines in commodity prices (beef, rice, wool, coffee, sugar, wheat, soybeans). The low yields of many agricultural products raised for domestic consumption and export make it difficult to compete on the market and often necessitate heavy subsidies. Additionally, health problems in crops and livestock products continue to cause major economic losses and to restrict exports.

Political and economic trends in 1986 encouraged renewed efforts for economic integration among Argentina, Brazil and Uruguay. Several protocols were signed and are presently in effect. Many of these protocols touch on agriculture in the three countries. The major areas of attention between Argentina and Brazil are capital goods, wheat, complementarity in the food supply, trade expansion, binational enterprises, investment funds and biotechnology.

The major agreements being reached between Brazil and Uruguay include complementary trade standards, concessions under a protocol for trade expansion and an agreement on beef, an agreement for scientific and technical complementarity, and a memorandum for the development of the Merin Lake watershed.

The trend toward cooperation and integration will demand a coordinated effort by IICA's different programs.

The problems generally affecting the Southern Area, and the major political and economic events that took place in Argentina, Brazil and Uruguay, introduce new possibilities for intensifying technical cooperation in the areas of agricultural policy, technology generation and transfer, marketing and agroindustry, rural development and animal health and plant protection.

ARGENTINA

In 1986, the Institute adapted its work to the new economic and agrarian lines established by the government in its medium- and long-term agricultural policies.

A general technical cooperation agreement was signed for this purpose by the Secretariat of Agriculture, Livestock and Fisheries (SAGyP) and IICA. Operations under this agreement have taken place through contracts and letters of understanding on which IICA bases its cooperation with the federal and provincial governments.

National organizations have taken an active part in IICA's regional projects to support horizontal cooperation among countries. Argentina gave special support to regional projects of PROCISUR and to animal health and plant protection projects.

IICA combined its regular resources with national funds and income from funding organizations such as the World Bank, UNDP and the IDB. It was thus possible to begin projects in the following areas: a) regional rural development; b) technology generation and transfer; c) credit for machinery and grain storage; d) animal health and plant protection; e) computerized agricultural bibliographic documentation and information systems; and f) modernization and greater efficiency in the public agricultural sector.

Project action

IICA was active in a number of program areas during the year, working both with the central government and in the provinces. Special achievements included:

Regional Rural Development

- A short-term action was carried out in support of the Undersecretariat of Agrarian Affairs and the Agricultural Development Program. The office focused on two basic issues. The first was organization and coordination of institutions active in agricultural policy making for the province, and the second was support in formulating the Agricultural Development Project of the North Central Zone of Entre Rios Province (PROCENOR). IICA coordinated its efforts with the provincial Undersecretariat of Agrarian Affairs (SAA) in preparing an advanced profile for PROCENOR, and this project is now being formulated with resources from the IICA/IDB Agreement. Broad participation was received from key institutions of the sector, including SAA, the National Agricultural Technology Institute (INTA), and the Bank of Entre Rios. Progress was made in the area of animal health, especially for training veterinary doctors.

- IICA carried out a technical cooperation activity for regional agricultural development in La Rioja province, strengthening the provincial Secretariat of State for Agriculture and Livestock (SEAG). Actions included preparation of a guidance framework for the agricultural sector of the province, which describes medium-term policies, and development of methods for preparing the agricultural production program. Progress was made in institutionalizing the SEAG Unit for Programming, Follow-up and Support (UPSA), for which purpose IICA proposed a system for programming and guidance of agricultural development in the province. As a part of this system, advisory services are being provided for decision making and management of programs and projects. A document was prepared and revised with a proposal for the organization of an Integrated Extension Service (SIE). An agreement was reached between the province and the SAGyP for performing a cadastral study of the province. A SEAG committee was set up on agricultural information and documentation. The Animal Health and Plant Protection Program continued to support SEAG and strengthen services in this field, particularly in programming and projects.
- SAGyP received assistance in reformulating a supervised credit program for small-scale farmers in northern Argentina. The Secretariat also received advisory services through in-service training for a technical team from SAGyP, INTA and the provinces that participated in the project. This training activity provided an opportunity to reformulate the project and adapt it to available financial resources. The project covers the provinces of El Chaco, Formosa, Misiones and Corrientes and will directly benefit 6,000 families. SAGyP is also receiving support in improving the organization and coordination of this project.

Technology Generation and Transfer

- A cooperative project is being carried out to strengthen INTA's capabilities for generating and transferring agricultural technology throughout the country. Emphasis is placed on those zones which have potential to increase national production. The project will last four years and covers four specific areas: a) agricultural research to reinforce present programs and begin others for generating new technology that will help improve productivity of basic staple items; b) agricultural extension for inter-

sifying the process of technology dissemination; c) human resource training; and d) additional services to support these three areas.

IICA and INTA signed an operating agreement for project implementation. It will provide technical cooperation services for strengthening agricultural research, extension and productivity. This agreement makes IICA responsible for hiring experts and supervising and administering consultancy services for the project.

The following cooperation activities will be stressed in this field: a) facilitating the development of specific projects approved by the INTA Council of Directors; b) cooperating in institutional facets of the process of creating, producing and disseminating technological innovations in INTA; and c) facilitating exchange between INTA and similar institutions in Argentina and other countries.

The General INTA/IICA Agreement will be implemented through specific letters of understanding, of which three have been signed so far. The first calls for cooperation in institutional analysis of the process of creating, producing and disseminating technological innovations in INTA. The second supports project implementation for technology generation and transfer, targeting the production systems used by small-scale farmers in northern Argentina, eastern Formosa, Cachi and Salta, and introduces agroforestry systems for minifundia farmers. The third letter of understanding supports the implementation of a project on perennial agriculture, developing and disseminating technology for conservation.

A short-term action provided assistance for INTA in carrying out the Seventh International Course on Dairy Production. Financial resources were provided, and IICA helped with coordination to facilitate the attendance of technicians from Brazil, Chile, Bolivia and Uruguay.

Support was provided to the Argentine Association of Regional Consorcia for Agricultural Experimentation (AACREA) for training professionals in farm planning. IICA helped prepare manuals on special farmer training, consisting of farm management simulation exercises. It also helped apply the case study method for analyzing production units.

Credit for machinery and intermediate grain storage

Work began on a short-term action to help SAGyP prepare a credit program that will be submitted to the Work Bank for funding. Work began on collecting and analyzing information for preparing a diagnostic study of machinery use and intermediate grain storage. The major actions and results include:

- A study was performed of the supply and demand of machinery and tools and on grain storage needs, and an analysis was made of mechanisms for increasing the demand for conservation oriented machinery.
- Studies were performed of the demand for credit in programs already under way, and organizations and entities were identified (Banco de la Nación Argentina-BNA, INTA and the National Beef Board) to coordinate credit program actions.
- Specific actions included decisions made on the types of crops to be considered; an inventory of the present supply of machinery and its age or degree of obsolescence; compilation of information on INTA's studies and experiences with soil conservation and tilling methods; a survey of practical experience by AACREA members; and analysis of the IDB/BNA storage and credit programs.

Animal Health and Plant Protection

- Cooperation in animal health

Specific actions took place in support of animal health programs. Of special interest was work done in cooperation with the National Animal Health Service (SENASA) on its programs to control classic swine fever, pseudorabies, goat brucellosis, and infectious horse anemia. INTA also received assistance in planning its brucellosis research program.

Computerized animal health information systems were fully reprogrammed, with files made of historical data, and equipment needs determined. These computerized systems will facilitate epidemiological alerts, organize the monitoring and surveillance of toxicological residues in export meat products, and carry a registry of technicians from the Health Control Service (SELA) who can provide field assistance. Software for these computerized animal health systems was installed. A diagnosis of information needs for development and maintenance of the national computerized

network of the Argentine Animal Health Plan was prepared.

A proposal was written for interinstitutional coordination between SAGyP and IICA in the area of natural resources and ecology. An integrated computerized system will be developed for planning and control of enforcement of national legislation to promote soil conservation. Finally, technical visits were made to 13 countries of the region to define high-priority information activities for the Institute's hemispheric Animal Health and Plant Protection Program.

- Cooperation in plant protection

A general agreement was signed on technical cooperation activities for institutional strengthening and attention to high-priority plant protection problems. A letter of understanding is expected to be signed in 1987 under which the project may obtain additional resources from the country. It was approved by the four provinces involved in the Regional Program for Integrated Fruit Fly Management, which had been prepared under the coordination of the project.

National authorities received the results of a joint IICA and SAGyP study of the products and levels of development of plant protection information systems and services in operation. The joint study received support to ensure that these information systems would be transferred and institutionalized in the beneficiary organizations. Recommendations on implementing the subsystem were prepared by the group from the National Plant Protection Information System.

Computerized systems for agricultural bibliographic documentation and information

Work took place in the field of documentation and library science to compile information on institutions of agricultural research, extension and higher education. Training courses were held on search strategies used for bibliographic data bases.

The project also cooperated in organizing and operating a scientific and technological information subsystem in the National Information System on Agricultural Sciences in Argentina (SNICA), through a diagnosis and proposed plan of action for 1987-89. A study was performed on measures for agricultural information and documentation in La Rioja province. Information

on the types of services provided by SNICA was distributed around the country. The project also assisted in preparing methodologies and manuals on retrieval and dissemination of information, for training technicians in this area.

Cooperation for Modernizing the Agricultural Sector in Argentina*

This new project is consistent with the objectives of the Medium Term Plan. Its purpose is to help strengthen institutional capabilities in the public agricultural sector for formulating and carrying out development policies and projects.

This project is in its initial phase and is expected to have a major impact on policies and administration of the public agricultural sector in the country. Financing has been approved under the first sectoral loan provided for Argentina from the World Bank/UNDP. The fundamental objective is to begin working in both the public and private sectors to perform a systematic analysis of issues holding high priority for the future performance of the agricultural sector. This will provide concrete, pragmatic input for policies, programs and investment projects that will help modernize agriculture in Argentina.

Studies that began in 1986 and others, to be concluded in 1987, will provide a basis for preparing proposed alternative policies and investment programs that target the major problems affecting production, marketing and exports of grains, oilseed products, meat, fruit and vegetables. Proposals will also be drafted for altering the organizational and operating structure of the public agricultural sector.

An analysis will be conducted of expectations for the future of international markets and the potential for production growth in Argentina. This will provide a basis for putting forth policy and project proposals as well as recommendations for institutional reform.

The outcome of these prospective studies will help the government design policy conditions for a second sectoral loan and formulate a program for sectoral investment, that will permit future projects to receive high-priority funding from the World Bank. The continuation of this project will depend on progress

* Please refer to footnote on page 10.

made with the feasibility studies on investment projects that fit into the program. This area will be financed with external resources channeled through IBRD mechanisms for financing project preparation.

The most noteworthy actions and results of the project, classified according to the six studies now underway, were:

- a) Policy design for production, transportation, storage and shipment of grains. A preliminary diagnostic study was performed of the transportation, storage and shipment system. Cooperation was provided in preparing the data base and developing methods for projecting information on grains.
- b) Formulation of strategies on grain marketing and definition of the role of the National Grain Board. An analysis was performed of the present situation and future prospects for agricultural policies in the EEC and the United States and their possible impact on the international market. Information was compiled, and alternative scenarios for supply and demand were analyzed and evaluated. Information was also collected on the organizational situation of the National Grain Board. An international seminar was held on grains and attended by representatives from six exporting countries.
- c) Contribution to evaluation and eventual implementation of a program for supplementary irrigation in the corn growing region. Technical and economic studies were carried out, with financial analysis at the farmer level, to be used in providing the foundation for a credit program. Such a program will include financing for the development of physical infrastructure and the purchase of irrigation equipment. Regional maps of aquifer use are also available and include preliminary hydrochemical maps and a regional classification of water supplies. Progress is being made in drilling and in aquifer measurement, as well as other areas related to analysis of irrigation.

- d) Formulation of livestock development strategies and definition of the role of the National Beef Board. The study has focused on production and is being expanded to include general problems affecting the industry and domestic and foreign trade. Progress has been made in diagnosing the situation, in analyzing domestic marketing of beef and beef substitutes, and in defining zoning standards for beef producing areas.
- e) Cooperation in designing export promotion policies for fruits and vegetables. Attention centered on the generation of policies for fruit and vegetable export promotion and identifying and selecting investment projects. Restrictions on fresh fruit and vegetable import markets were evaluated. Progress was made in compiling information and statistics on the subject, and work is being done to study the supply of local produce.
- f) Institutional strengthening of information systems for the National Beef and Grain Boards. Subcontracts were signed with these two Boards in November, 1986, and an advance disbursement was received in December. During this period, progress was made toward implementing the project as of January, 1987. The purpose of the project will be to develop computerized systems of essential information for making decisions on production, consumption and trade policies for grains and meats.

Cooperation in modernizing the public agricultural sector has provided an opportunity for organized brainstorming to seek solutions and formulate proposals that can be converted into policies, programs and investment projects. It is expected that progress will be made in 1987 toward achieving the objectives of the project. This will provide a foundation for a second agricultural sector loan from the World Bank.

ARGENTINA Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Institutional Strengthening of Information Systems for the National Beef and Grain Boards	Prepare a proposal for upgrading the information system of the National Beef and Grain Boards and adapting it to the needs of the marketing system.	Work began in November, 1986. Progress made for implementing project in 1987.	IICA/JNC- JNG	105 580 60 200	10 890	176 670
Cooperation for Modernization of the Agricultural Sector in Argentina	Analyze and support solutions to main problems of grain marketing. Diagnose domestic grain marketing and effects of international market trends on Argentina's export potential. Study rationalization of production in traditional corn producing area. Perform zoning and diagnosis of livestock and agricultural export.	Cooperation provided in developing grain policies, including transportation, storage, diagnosis of circulation and grain marketing systems for these products in the country. Progress made on analysis and evaluation of alternative supply and demand expectations. Information compiled on organization of the National Grain Board. Technical and economic studies completed on the traditional corn growing region for formulating a credit program. Studies performed on water supply and use. Progress made in studies on livestock situation, including industry and internal and external trade.	IICA/ SAGyP	506 686	35 798	542 484

ARGENTINA		Progress Towards Meeting Objectives	External Resources		Resources	
Project or Action	Project Objectives		Source	Amount	IICA	Total
Technical Cooperation with the Regional Agricultural Development Project of La Rioja Province	Support studies of provincial development potential. Set priorities. Prepare project profile. Develop methodological basis for development project in high-priority area.	Secretariat of State of Agriculture and Livestock of La Rioja province supported in preparing a document on a guidance framework for the province's agricultural sector. SEAG Unit for Programming, Follow-up and Support institutionalized. Advisory services and assistance provided in implementing this unit. Document on integrated extension services revised. Resources sought for agricultural provincial cadastre. Support provided for establishing the SEAG Committee on Agricultural Information and Documentation.		0	78 100	78 100
Cooperation for Organizing and Developing Integrated Information Services and Computerized Information Systems	Support the computerization, integration and consolidation of agricultural information systems in Argentina.	Study performed of information in La Rioja province. Instruments designed for dissemination of national agricultural information systems. Manuals prepared on using AGRIS data base. Data classified and indexed for the National Agricultural Information and Research System. Personnel trained in AGRIS use. SNIA strategies set for 1987-1989.		0	85 200	85 200

BRAZIL

Institute action in Brazil has been systematically, continuously revised and adapted to development priorities at the national, regional and local levels. Technical cooperation has targeted all three levels whenever possible.

Activities in Brazil have been characterized by careful coordination of quota funds with financial resources provided by national organizations, so as to maximize the results of technical cooperation and joint action. Efforts have concentrated on irrigation, rural development, rural education, animal health, research, and other fields of interest to the country.

National organizations in Brazil have actively participated in multinational projects such as PROCISUR, IICA/Tropicos and the agroenergy project. This has intensified horizontal cooperation with other countries.

Project action

Irrigation

The IICA office in Brazil has worked for many years to promote irrigation in the country, with an emphasis on regions subject to severe drought in the semiarid Northeast. Cooperation activities in this zone have made it possible to organize a number of projects on two different levels.

On the first level, IICA has supported the country's regulatory agency for irrigation policy through two projects:

- a) Technical cooperation was provided for the Ministry of the Interior and agencies attached thereto, in defining the design and implementation of irrigation plans, programs and projects. Before this project formally began on May 19, 1986, the IICA office in Brazil worked closely with the Ministry of the Interior (MINTER) and the Ministry of Irrigation (MINIRRI) in formulating the National Irrigation Project (PRONI). An analysis was performed of specific features of the Irrigation Project for the Northeast (PROINE). This cooperation began before MINIRRI was authorized as the regulatory agency for irrigation policy, a

responsibility that had been in the hands of MINTER. As a result, the IICA technical team began working with MINIRRI.

- b) Technical cooperation was given to MINIRRI and associated agencies in preparing and implementing irrigation plans and programs.

The objective of this project is to support the technical team of the Special Ministry for Irrigation and to cooperate in designing strategies for the implementation of PROINE and the formulation and implementation of PRONI.

The most noteworthy actions and results were as follows:

- Contributions were made to the preparation of basic PRONI documents, especially for follow-up in research, technical assistance, and human resource training. IICA also helped structure the training subprograms of PRONI and PROINE.
- IICA participated in the evaluation and analysis of state-level programs for irrigation and possibilities for incorporating them into PRONI; assistance was given in defining high-priority areas for this irrigation program, based on soil classification.
- Contributions were made to an analysis of the proposed San Francisco Valley Development Plan.
- IICA participated in the evaluation of a proposal submitted by UNDP and WMO, for implementing high-priority research in the area of agroclimatology.
- Terms of reference were defined for preparing a diagnostic study on the supply and demand of water resources in PRONI areas, and a model was presented for authorizing water use to meet requests presented to MINIRRI.
- Statistical information was prepared on the development of research in Brazil, for a document requested by the World Bank concerning PRONI operations.
- Cooperation was provided to the subprogram for training producers to use irrigation systems.

The following projects provided cooperation to the major agencies of PRONI and PROINE at the executive level:

- a) Technical cooperation was provided for the San Francisco Valley Development Agency (CODEVASF) in developing irrigated agriculture. The major results were:

- Contributions were made to the development of irrigation districts by strengthening the operation of high-priority zones and designing production systems for irrigated agriculture appropriate to environmental conditions. Cooperation was also provided in defining special units for observation and demonstration, designed as a way of altering techniques for irrigated agriculture. Training activities received support, and organizational structures and their field operations were evaluated.
 - IICA contributed to improved methods for administration, operation, follow-up and evaluation of activities in irrigation districts, including the preparation of manuals and standards.
- b) Technical cooperation was given to the National Department of Drought Control (DNOCS) in the operation and maintenance of irrigation districts. The most important results were improved organization and development of a system for planning, implementation, control and evaluation of operations, and maintenance of irrigation districts.
- c) Technical cooperation was given to the National Program for Irrigated Agriculture in Lowland Areas, under the Ministry of Agriculture. The major result was helping to improve the organization of the institutional system responsible for promoting the development of microbasins using improved techniques for irrigation and drainage. IICA helped prepare, implement and evaluate irrigation projects, supported technology transfer in irrigation and drainage, and trained personnel.
- d) Technical cooperation focused on the state of Bahia in the area of natural resources and irrigation. IICA helped determine present and potential soil use in the state of Bahia, define bioclimatic regions based on the identification of high-priority areas for small- and medium-scale irrigation, and provide training in irrigated agriculture.

Rural Development

IICA's cooperation in rural development has concentrated on northeastern Brazil, the most economically and socially disadvantaged region of the country. The IICA office channeled its

activities toward regional support of the Northeastern Superintendency of Development (SUDENE), an organization responsible for carrying out the Support Project for Small-Scale Farmers (PAPP), funded by the World Bank. Other technical assistance actions included support for state-level projects.

The nature of IICA's cooperation in this area, and the major results achieved, can be summarized in the following projects:

- a) SUDENE received support in formulating and implementing rural development plans, programs and projects in the northeastern region. IICA cooperated with SUDENE and with regional and state-level institutions of the agricultural sector in the framework of the PAPP, through a planning system that facilitates program supervision, follow-up and evaluation. It helped improve systems for managing water resources and develop the institutional system for research, technical assistance, extension, and production incentives, and supported activities in the field of land tenure and small-scale farmer organization for managing associative projects promoted by the PAPP. The IICA/SUDENE agreement, with a term of three years, ensures a flow of resources to guarantee continuity of technical cooperation.

The major achievements made by this project during the year were:

- Substantial progress was made in developing systems for physical and financial control and follow-up of the PAPP. These systems were developed with support from IICA's technical team to improve the level of computer personnel in SUDENE and PAPP and increase the flow of information based on a comprehensive analysis of activities carried out in the region and the state.
- IICA helped prepare a study of the present situation and future prospects for water resources at the regional level (PAPP areas) as a way of improving supervision of irrigation projects in the states. The system for management of irrigation projects has been improved, and a proposal was prepared for training courses on technical and economic feasibility analysis for irrigation projects. Hydraulic studies were carried out for high-priority PAPP projects. Technical cooperation

with the states has increased in irrigation projects, both public and private.

- In the area of agricultural production and action, an interdisciplinary support team is being organized, to consist of specialists in technology generation and transfer, rural extension, farmer organization, marketing and cadastre.
- b) Technical cooperation was provided in preparing and evaluating rural development programs in the state of Bahia. Cooperation was oriented towards strengthening the technical capabilities of the Secretariat of Planning, Science and Technology, the Regional Development and Action Agency (CAR) and the Statistics and Information Center (CEI) of the state of Bahia. These agencies are responsible for carrying out rural development projects in the state.

The most significant results were:

- IICA helped to strengthen the teams working in the field programs of CAR and in specific development projects.
 - IICA participated in studies of marketing and small-scale agroindustry, and of natural and socioeconomic resources.
 - Cooperation was provided in the study, implementation and evaluation of projects on producer settlements and resettlements.
 - Feasibility studies were performed for rural development projects, which were then presented to SUDENE and the World Bank; evaluations were done on projects already funded. IICA also helped prepare rural development projects on technology adoption.
- c) The state government of Ceara received technical cooperation in implementing the integrated rural development project in the area of farmer organization. The objective is to support the process of participatory management in associative production units, giving participating technicians in-service training through follow-up and economic evaluation of these units.

The major results were:

- A financial and economic evaluation was completed of associative production units and of follow-up mechanisms for development projects, and technicians were trained in this field.
 - Advisory services were provided for the team evaluating associative production projects, and training was given to technicians from the Integrated Rural Development Center of the Agricultural Planning Commission of Ceara; this led to an evaluation project for associative enterprises. Special methods were designed for studying small-scale farmers and agrarian reform communities, and people were trained in technical, economic and financial aspects of projects underway.
- d) IICA worked to incorporate the family and rural women into rural development.

The following results were achieved in this area:

- Support was provided for modernizing studies in the Brazilian Agency for Technical Assistance and Rural Extension (EMBRATER), through case studies of educational processes in rural areas. The Social Welfare Unit was assisted in analyzing the organization of the rural family.
- Joint work with an EMBRATER agency in Pernambuco led to expansion of the project to provide continuing education for extension agents and the strengthening of several production projects in associative enterprises made up of rural families; these projects were then included as integral parts of EMBRATER programming.
- Training was provided in food processing, and IICA helped train organized groups to market products prepared in the home in the action framework of the San Francisco Valley Development Agency.

Education for Rural Development

A number of actions took place in this field, targeting policies for formal and nonformal education for the rural areas of the coun-

try, and assisting with implementation. The following actions took place:

- a) The Ministry of Education received cooperation in redefining and implementing new policies for formal and nonformal education in rural areas. The experiences of Institute technicians working at the state level provided a basis for formulating a strategic, long-term plan for development of education in the northeastern region. This plan includes preparation of specific programs and manuals to guide the preparation of basic education programs that will be financed by international banks. IICA helped with institutional strengthening of the Secretariat of Instruction in the primary and secondary schools and assisted 12 state-level secretariats of education. It also worked with the Foundation for Basic Education of Youth and Adults (EDUCAR).
- b) IICA assisted the Secretariat of Education of the state of Pernambuco in participatory evaluation of rural education programs. Earlier projects carried out with financial backing from IDRC provided a basis for supporting the introduction of a system for participatory planning and evaluation. Details of the proposed model were revised in 1986, and documents were prepared on subsidies for diagnostic studies of education in Pernambuco, priorities for the educational system in 1987, and the planning process for 1986-1987. A document describing evaluation methods for the Secretariat of Education of Pernambuco was rewritten and approved. Training was provided for 100 regional technicians and 50 Secretariat staff members in preparing plans for schools, and 20 regional plans for the state were designed.
- c) The Secretariat of the State of Piauí received cooperation in implementing rural education programs. IICA participated in studies to define a specific theoretical framework oriented toward the overall theoretical framework for formulating the rural education program of the state of Piauí. Three communities typical of the rural environment were studied to evaluate the development of educational experiences. Three educational projects were carried out in these rural communities, and different facets of rural education were studied in seminars.

Animal Health

Actions to support high-priority programs for prevention, control and eradication included technical cooperation for preparing a project submitted to the World Bank, with the following high-priority target areas: foot-and-mouth disease, poultry and swine diseases, and education on parasite diseases related to the foot-and-mouth disease program. The laboratory network was strengthened in the framework of the World Bank project. The group working on eradication of exotic diseases and emergencies was consolidated by including it in the animal health project presented to the World Bank and by introducing a bibliographic system on exotic diseases in the National Information and Documentation Center (CENAGRI).

The following short-term actions were carried out in preparation for developing new projects: a) support for plant protection activities in the Ministry of Agriculture; b) assistance for commercial integration of Brazil with countries of the southern cone; c) technical cooperation with the Secretariat of Supply in the state of Minas Gerais for formulating and implementing agricultural marketing projects.

Technical Cooperation Between IICA and the Brazilian Agricultural Research Agency (EMBRAPA) for Strengthening Agricultural Research *

This project came into being as a joint action by IICA and EMBRAPA, reinforced with external resources from the World Bank (IBRD) and the Inter-American Development Bank (IDB).

IICA's participation in changing the institutional model of research in Brazil took place in three stages. In the first stage, IICA worked with a selected group of Brazilian specialists to perform an exhaustive diagnostic study of the situation of research in the country and the institutional model in use at that time. A critical analysis of the situation revealed the need for change, possible alternatives, and proposals of legal instruments for making these changes happen.

* Please refer to footnote on page 10.

During the second stage, the government of Brazil asked IICA to take part in implementing institutional changes and formulating guidelines for a research policy. IICA sent an interdisciplinary team of specialists in planning, management and research to guide the national counterpart group formally established by the Ministry of Agriculture. The joint work by EMBRAPA and IICA led to an institutional model for research to be used at the national, regional and state levels for selection of research priorities, administrative systems and research planning systems.

The third stage is still in effect. IICA provided its support in formulating and negotiating loans from IBRD and IDB to obtain the resources needed for institutional development of the agency.

When the loans had been approved, IICA began to concentrate on the administration of resources allocated for technical cooperation and human resource development. It administered the selection and hiring of 620 consultants for short-term and long-term services, totalling 6,335 person/months, distributed as follows:

with the IDB resources, 112 consultants, totalling 320 person/months; with the IBRD I Project, 244 consultants totalling 1,064 person/months; with the IBRD II Project, 264 consultants totalling 4,951 person/months. Total consultancies in the two IBRD projects came to 508 consultants, totalling 6,105 person/months from 1983 to 1986.

Finally, IICA participated in organizing short-term training courses and travel abroad for technicians. In the IBRD II project alone, 460 events took place.

The educational levels of EMBRAPA professional personnel over the past 15 years has increased steadily as a result of structural changes in the agency's model and policies. The data are eloquent: at the beginning of 1984, 83 percent of personnel held bachelor's degrees, 14 percent held master's degrees, and less than one percent held doctoral degrees. By 1986, 15 percent held bachelor's degree, while 61 percent held their master's and 24 percent held doctoral degrees.

BRAZIL Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Cooperation with the State Government of Ceara for Implementing the PDRI/Ceara in Farmer Organization and Training	Support CEPALCE in: farmer organization, follow-up of integrated development projects, on-going training systems for field technicians, advisory services for associative service and production units of small-scale producers, support fund for associative organizations, and economic project analysis.	A project completed by the end of 1986, for evaluating associative enterprises. Research instruments adapted to conditions of small-scale farmers and client communities. Human resources trained in technical, economic and financial aspects of projects underway.	IICA/CEPA CEARA	13 118	0	13 118

BRAZIL Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resource		Resources	
			Source	Amount	IICA	Total
Technical Cooperation for the Preparation, Implementation and Evaluation of Rural Development Programs in the State of Bahia	Support the Secretariat of Planning of the state of Bahia through the Coordinating Center for Regional Action (CAR) and the Statistics and Information Center, in coordinating actions for rural and regional development in the state of Bahia.	CAR operations improved by teams carrying out rural development projects; contribution made to marketing and small-scale agroindustry studies; projects on producer settlements and resettlements evaluated and implemented; feasibility study on rural development projects completed. Socioeconomic and rural development studies completed.	SEPLAN- TEC/CAR	267 850	0	267 850
Cooperation with the Ministry of Education in Redefining and Implementing New Policies for Formal and Non-formal Education in Rural Areas	Support the Ministry of Education in redefining and implementing policies for rural education at the federal level.	Cooperation given in formulating a long-term strategic plan for developing education in the northeastern region and pertinent programs.	IICA/MEC	117 733	44 034	161 767
Cooperation with the Agro-energy Program of the Ministry of Agriculture	Help reduce the dependence of the rural sector on commercial imported energy, through rationing consumption and substituting with alternative sources.	Follow-up and evaluation completed on alcohol micro-distilleries in 8 universities. Support given to plan of government goals in area of microdistilleries for the northern region. Follow-up given on research and evaluation of projects for use of forest residues, animal traction, and biogas production for an integrated approach to energy saving and conservation in agriculture.	IICA/ SUPLAN AGROEN	126 495	0	126 495

BRAZIL Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resource		Resources	
			Source	Amount	IICA	Total
Support for Projects to Improve the Participation of Families and Rural Women in Development	Support the development of diagnostic studies on the problems and needs of rural communities, in terms of production and consumption and support services for community development and rural families.	EMBRATER assisted in case studies on educational processes in rural areas and studies, and meetings and conferences on the organization of families and rural women. Cooperation provided in the ongoing training project for extension agents and in promoting small-scale production projects in associative enterprises designed for families and rural women.		0	35 800	35 800
Technical Cooperation with the Government of Brazil in Implementing the Project for the Northeast and the Support Program for Small-Scale Rural Producers	Concentrate support in the irrigated area of the semiarid Northeast, which holds high priority for receiving resources from the Northeastern project, its Support Program for Small-Scale Farmers (PAPP), and PROINE.	Better coordination achieved between IICA project and organizations benefiting from technical cooperation in irrigation in the Northeast.		0	74 100	74 100
Technical Cooperation with the Executive Commission for Planning of the Cacao Crop (CEPLAC) in the Physical and Biological Research Program	Support biotechnological and socioeconomic studies of cacao.	Technical and financial aspects of this project are being restructured, according to present conditions in the institution. Advisory services provided in computer science.	IICA/ CEPLAC	69 320	0	69 320

BRAZIL Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resource		Resources	
			Source	Amount	IICA	Total
Technical Cooperation with CODEVASF for Developing Irrigated Agriculture	Strengthen units of CODEVASF associated with operation and maintenance of irrigation districts and with coordination and support for development of production systems using irrigated agriculture.	Support provided in institutional and technical affairs for operation and maintenance of high-priority districts. Contributions made toward training human resources in exchange of experiences with techniques of irrigated agriculture.	IICA/ CODEVASF	224 109	0	224 109
Cooperation with the Secretariat of Education of the State of Pernambuco in Participatory Evaluation and Planning of Rural Education Programs.	Support consolidation of the participatory planning and evaluation system for the integrated rural education system of the state.	Flaws corrected in the model for participatory planning and evaluation of rural education, with definition of subsidies for the diagnostic study of education, priorities for the educational system in 1987, and the planning process for 1986-87 and evaluation methods for the Secretariat of Education of the state of Pernambuco.	IICA/MEC PERN	65 967	9 948	75 915
Technical Cooperation with the San Francisco Valley Development Agency (CODEVASF) in Operating and Maintaining Irrigation Districts	Promote national processes for operation and maintenance of irrigation districts in the San Francisco River Valley.	Support provided for the Regional Office of CODEVASF in organization, management, planning, operation, follow-up and evaluation of activities in irrigation districts.	IICA/ CODEVASF	92 910	0	92 910

BRAZIL						
Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Resources Amount	Resources IICA	Resources Total
Support for the Super-intendancy of Development of the Northeast (SUDENE) in Formulating and Implementing Rural Development Plans, Programs and Projects in the Northeastern Region of Brazil	Cooperate with SUDENE and with regional and state organizations of the agricultural sector associated with implementing the PAPP to improve working systems in their particular jurisdictions.	Progress made in the PAPP system for control and follow-up of financial performance and construction. Follow-up provided on supervision of state-level irrigation projects. Report prepared on hydrological resources in the program area. Hydrological studies completed in high-priority areas.	IICA/ SUDENE	691 926	0	691 926
Cooperation with the Ministry of the Interior (MINTER) and Associated Agencies in Defining, Preparing and Implementing Irrigation Plans, Programs and Projects	Support the central irrigation office in planning irrigation development projects.	Project absorbed by MINIRRI in May, 1986. Close cooperation developed with the Ministries of the Interior and of Irrigation, and participation given in preparing the PRONI and the PROINE in the Northeast.	IICA/ MINTER	66 945	0	66 945
Technical Cooperation with the National Drought Control Department (DNOCS) in Operation and Maintenance of Irrigation Districts	Develop systems for operation and maintenance of irrigation districts in northeastern Brazil.	Proposals made for improving organization, implementation, control and evaluation of operations and maintenance of irrigation districts. Field activities performed and general regulations drafted for operation and maintenance of districts. Training provided for 44 DNOCS professionals.	IICA/ DNOCS	82 080	0	82 080

BRAZIL Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Cooperation with the Secretariat of Agriculture and Production of the Federal District in the Field of Irrigation	Develop irrigated agriculture in the Federal District by cooperating in institutional, program and technological matters and in training human resources.	Support provided for establishing a technical commission responsible for the program. Cooperation given in introducing a system for programming and follow-up, and five professionals trained. Project completed in June, 1986.	SEC/GOV. FED. DIST.	21 477	0	21 477
Support for Actions of the National Center for Agricultural Documental Information (SENAGRI) of the Ministry of Agriculture	Strengthen the National Center of Agricultural Documental Information.	Support given in defining methods for providing advisory services to 12 state information and documentation centers. Participation in consolidating state-level plans included in the National Plan (PLANIDA). Training provided through CIDIA to 18 CENAGRI technicians in areas of information handling and retrieval for using the AGROVOC data base. Support provided in retrospective search of agricultural literature at state levels.	IICA/ CENAGRI	8 265	19 400	27 665
Cooperation with the Secretariat of Education of the State of Piaui in Implementing the Rural Education Program	Cooperate with the Secretariat of Education of Piaui in developing a doctrinary theoretical framework, guidelines and strategies for rural education.	Theoretical framework prepared for a program of guidelines for rural education in the state of Piaui.	IICA/SEC- PIAUI	78 496	9 948	88 444

BRAZIL Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Cooperation with the Ministry of Irrigation and Associated Agencies in Preparing and Implementing Irrigation Plans and Programs	Support the technical team of the Special Ministry for Irrigation Affairs, and cooperate in defining strategies for implementing PROINE and preparing and implementing PRONI.	Support provided in preparing basic documents of PRONI and in research, technical assistance and training. Participation in analysis of agricultural features of PRONI; in study of sub-regional and state irrigation plans; in setting priorities. Training curriculum prepared. Courses proposed for training. Manuals for users of irrigation systems prepared.	IICA/ MINTER	216 041	0	216 041
Technical Cooperation to Strengthen Agricultural Research Between IICA and the Brazilian Agricultural Research Agency (EMBRAPA)	Support implementation of the technical cooperation contract between IICA and EMBRAPA for providing advisory services and human resources training.	Seventy consultants hired, totalling 430 person/months, including national and international personnel. Assistance for 30 scholarship winners to study abroad. Consultancy services given in humid tropics and hillsides, as well as for the following: beans, corn, vegetables, fruits, wheat, cotton, rubber, sorghum, soybeans, babassu (<i>Orbignya</i>) palm forests, beef and dairy cattle areas, food technology, animal health, seeds, bioenergy, soils and fertility, salinity control and drainage, information, documentation and evaluation.	IICA/ EMBRAPA IICA/CIAT IICA/CIP IICA/IITA IICA/ TROP SOIL	3 002 347 79 400 19 500 14 000 8 000	0	3 123 247

BRAZIL Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Cooperation with the National Program for Irrigated Plains (PROVARZEAS) of the Ministry of Agriculture (MINAGRI) in Programs for Irrigated Agriculture	Support the rational use of low-lying lands.	Support provided in the implementation of demonstration projects in low lands of the Federal District, Bahia and Paraguay. 130 people trained in courses on irrigation and drainage and equipment use. Cooperation given in a model for management and control of PROVARZEAS programs, and guidelines developed for use of land and water.	IICA/ PROVARZEAS	358 606	0	358 606
Technical Cooperation in the Area of Natural Resources and Irrigation in the State of Bahia	Provide institutional strengthening of the Secretariat of Planning, Science and Technology (SEPLANTEC) in the area of organization and projects. Help compile an inventory of natural resources.	Maps of present and potential use of lands prepared for the state of Bahia. Bioclimatic regions outlined. Support given in small- and medium-scale irrigation. 25 professionals trained.	SEPLAN- TEC/CEI SEPLAN- TEC/CEI	71 279 241 173	0	312 452

BRAZIL Project of Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Technical Cooperation in Animal Health	Support high-priority animal health programs in Brazil, including disease control and eradication; laboratory systems; services for information and epidemiological surveillance; animal health integration programs with producers, researchers, teachers and professional associations; prevention, surveillance and eradication of exotic diseases.	Project goals achieved and in some cases surpassed. Cooperation offered in high-priority programs for prevention, control and eradication, through preparation of projects presented to IDB in the following areas: foot-and-mouth disease, swine and poultry diseases, and education on parasite diseases associated with the foot-and-mouth disease program.	IICA/ SNAD LANARA	49 312	79 536	128 848

CHILE

For several years, IICA has channeled its actions through general agreements and operating programs for technical cooperation under which national technicians participate in interdisciplinary work with IICA specialists in the areas of: a) technology generation and transfer; b) agricultural marketing; c) a national system for agricultural projects; d) plant protection; and e) rural education.

Project action

A technical cooperation project to strengthen the country's main organizations for technology generation and transfer provided a mechanism for the IICA office to continue supporting national

institutions in this area. Similarly, cooperation with the Ministry of Agriculture was stepped up through the Regional Ministerial Secretariat (SEREMI) of Region IX.

IICA worked with the Technology Transfer Program of the Agricultural Research Institute (INIA), providing direct advisory services in operations and growth. Program professionals and farmers received training in using group methods effectively for technology transfer. Managerial capabilities were strengthened, especially for privatization of transfer groups.

IICA cooperated actively with SEREMI for agriculture in Region IX by leading a community agricultural development program, geared toward those farmers not presently served by other transfer programs in the country.

This program has been in operation for only a short time, and support took the form of advisory services for operation and imple-

mentation, plus the training of young program technicians in agricultural extension through seminars and scholarships for international exchange. Support was also provided for preparing publicity materials.

Conversations began with INIA authorities in the area of technology generation to obtain IICA's cooperation in research administration and planning. This initiative culminated with a letter from INIA officially requesting cooperation. A short-term action was then authorized by IICA to provide a program basis for the project.

The second area of action was agricultural marketing. The agreement and the project, which had been in operation since mid-1983, completed a new phase. The target office was the Ministry of Agriculture, which is responsible for making policies and instruments, and the National Confederation of Agricultural Cooperatives (COPAGRO), which puts adopted measures into action, especially in the area of grain marketing.

Technicians and leaders of COPAGRO and its member cooperatives received follow-up training, especially in the area of grain marketing and administration of silos and grain elevators. Assistance also focused on external market studies, especially for grain legumes exported by COPAGRO.

Special attention was given to the COPAGRO member cooperatives in 1986, with the idea that the cooperatives can improve their impact and develop closer contacts with the producers to strengthen the Confederation. This made it possible to extend marketing assistance to more distant areas, small-scale farmers, and crops which in the past had been overlooked.

The IICA office also provided the Ministry of Agriculture with cooperation in marketing through direct advisory services and studies, as a basis for domestic marketing policies. One example was the inclusion of new export lines to meet the country's needs for external agricultural trade.

The agrarian planning process of the Ministry of Agriculture was strengthened by providing assistance to the Office of Agricultural Planning (ODEPA) to improve its technical and operating capabilities. This allowed it to perform its three-year planning exercise promptly and correctly and to manage the country's forestry and agricultural sectors.

The focus of cooperation in 1986 was to achieve concrete results in establishing and implementing a National Agrarian Pro-

ject System and to improve sectoral analysis processes and agrarian policy formulation.

Progress with the National Agrarian Project System included developing operating capabilities so that the System could begin to function in the Ministry of Agriculture. Prototypes were prepared of the type of results that the System was expected to generate.

This was the origin of the ODEPA project group. Forms were prepared, an operating manual was written, methods were developed, and studies were performed on investment projects and international technical cooperation. These achievements were very significant, as the National Agrarian Project System is now well on its way toward institutionalization in the Ministry of Agriculture. In the near future, it will become fully operational and cover all Ministry services, including Regional Agricultural Secretariats. It fits into the National Investment System operated by the Office of Planning (ODEPLAN) and its Regional Secretariats.

ODEPA received support in the process of improving its sectoral analysis and policy formulation processes. The emphasis was on preparing experimental technical coefficients of production in the metropolitan zone. Results achieved so far will equip ODEPA with important production information on major lines and maintain a simple, low-cost mechanism for expanding this reserve of information and keeping it up to date. This, in turn, will bring about substantial improvements in cost analysis of different products and identify possible production alternatives for the various regions of the country.

Technical cooperation activities in plant protection were oriented toward helping to solve problems to which the Agricultural and Livestock Service (SAG) assigned high priority. Four lines of action were agreed upon (plant protection education, biological and economic parameters, strengthening plant protection campaigns, and plant protection information), and emphasis was placed on those to which the SAG attached greater importance.

This was the case, for example, of actions to control the pine shoot moth (*Rhyacionia buoliana*) in southern Chile. Programs were carried out for providing technical advisory services in biological pest control and the biology and management of this insect. Programs included training for national personnel, technical analysis of specific problems, field visits, lectures, interviews with authorities, technicians and businesses, and provision of selected scientific technological information.

Similar cooperation characterized Chile's program to fight the Mediterranean fruit fly in the border zones between Chile and Peru. The project continued to support SAG and worked to develop closer plant health cooperation between the two countries. A bilateral meeting took place in 1986 to exchange information and open lines of communication. During this meeting, Peruvian authorities were given two vehicles and other goods acquired through IICA with contributions from Chile, so as to intensify the campaign against the Mediterranean fruit fly in the Peruvian valley of Tacna.

IICA also responded to a Chilean request to examine and revise plans for preventing citrus canker (*Xanthomonas campestris* cv *citri*) through various technical cooperation activities. A study was conducted to determine critical levels and population damage by different agricultural pests of major importance to Chile. A computerized system on plant health information was prepared.

Support in animal health continued to focus on programs for classic swine fever and bovine brucellosis and tuberculosis. Bovine leucosis was also targeted. Major support was provided for training professional personnel in the use of mass media for animal health. IICA helped plan the animal health research program, to be carried out by the country's three universities with programs in veterinary science, in coordination with the Ministry of Agriculture.

Technical Cooperation to Strengthen Organizations for Formal Agricultural Education in Chile*

IICA has been cooperating for many years in the area of education in Chile. From 1956 to 1970, regional cooperative programs were implemented for training graduates in today's Andean and Southern Areas and developing professional education in agriculture. This early work was the origin of the Permanent Graduate Program in Agriculture and Forest Sciences of Chile, which has provided specialized training for many professionals through its graduate studies in agriculture and livestock.

* Please refer to footnote on page 10.

The year 1972 marked the beginning of nearly ten years of cooperation with the Council of University Presidents, through which IICA provided the technical secretariat for the Committee on Agricultural and Forest Education and the Agricultural, Veterinary and Forest Subcommittees. In 1974 and 1975, IICA began to assist the Ministry of Agriculture (MINAGRI) and the Ministry of Public Education (MEP) with secondary level agricultural training. This was done through a cooperation project for organizing and planning the agricultural education subsystem in Chile. From 1976 to 1978 the project met its objectives for planning and organizing the subsystem and moved on to cooperate in its operations.

The work carried out by national organizations, with the support of this project, provided a basis for MEP to establish the National Agricultural Education Coordinating Commission in 1979. This line of technical cooperation in secondary education is still in operation. It was initially oriented toward integrating agricultural schools into neighboring communities, and now is cooperating with the Department of Technical and Professional Education of the MEP, the Regional Ministerial Secretariats, and agricultural schools, in the fields of teacher training and preparation of educational programs.

Teachers were trained in educational methods and student evaluation. This completed a long cycle of refresher courses for teachers, technicians and presidents of the state-owned agricultural schools, today administered by the Social Development Corporations of the Rural Sector (CODESSER). Project action extended toward a growing number of agricultural and industrial schools located in rural areas, through teacher training, advisory services in administrative methods, and preparation of plans and programs. Toward the end of the period, horizontal exchange was used to help MEP strengthen its capabilities for responding more effectively to its mandate as part of the rural development program being prepared by the government.

In the area of higher education, the Regional Coordinating Body of the Latin American Association of Higher Education (ALEAS) continued to receive support on a low level. The Southern University of Chile received direct advisory services in analyzing an institutional project, which appeared in a thesis written as part of the graduate program in rural development.

CHILE Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Resources Amount	Resources IICA	Resources Total
Strengthening the Agrarian Planning Process of the Ministry of Agriculture	Help the Agricultural Planning Office (ODEPA) acquire technical and operating capabilities allowing it to perform its duties.	Support for the establishment and implementation of the National Project System, and improvement of processes of sectoral analysis and agrarian policy formulation.	Trust Fund/ IICA/ ODEPA	9 111 36 112	33 056	78 279
Technical Cooperation to Strengthen Formal Agricultural Education	Support secondary technical agricultural education and, to a lesser degree, higher education, by strengthening schools and faculties.	Completion of the training cycle for teachers, technicians and presidents of state-owned agricultural schools administered by CODESSER. In higher education, continued support for the ALEAS Regional Coordination Centers. Advisory services provided to the Southern University of Chile for analysis of the institutional project.		0	90 900	90 900
Technical Cooperation to Strengthen Major National Organizations for Technology Generation and Transfer	Support the strengthening of technology transfer in INIA and the Ministry of Agriculture.	Advisory services for INIA in operating technology transfer and in training efforts for program professionals and farmer involved in group methods. Support for the Ministry of Agriculture, especially in the community agricultural development program, focusing on farmers not receiving services from other technology transfer programs.		0	137 200	137 200

CHILE Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
			Source	Amount	IICA	Total
Marketing Strategy with Farmers of the National Confederation of Agricultural Cooperatives and the Ministry of Agriculture (COPAGRO/IICA/MINAGRI)	Support COPAGRO and the Ministry of Agriculture in establishing institutional sub-structures for staff training in areas of studies, projects and decision-making for marketing.	Training for technicians and leaders from COPAGRO and its member cooperatives in grain marketing and management of silos in planning for external markets. Support for the Ministry of Agriculture through direct advisory services and studies on sustaining policies for domestic and foreign marketing.		0	87 200	87 200
Technical Cooperation for Plant Protection Programs	Help solve plant protection problems of high priority to the Agricultural and Livestock Service.	Support focused on pine shoot moth control in southern Chile, including training actions; Mediterranean fruit fly control programs in the border zone of Chile and Peru; and plans to prevent citrus canker.		0	94 100	94 100

PARAGUAY

IICA has a long history of cooperation with this country, helping it to meet national priorities, both through direct action using its own resources, and by administering funds for institutional strengthening provided by the Inter-American Development Bank (IDB). It continued to use this approach in 1986, administering

IDB funds to improve levels of agricultural technology.

Regular resources were used for action in the following areas: a) agricultural education; b) marketing; c) rehabilitation credits for small-scale farmers; and d) animal and plant protection.

Project action

The project to strengthen the subsystem for agricultural and forest education in Paraguay continued working to consolidate the

schools of the subsystem and the Office of Agricultural and Forest Education.

Activities in schools were designed to strengthen basic information for justifying educational plans on production and land use. Basic areas of production were included in training courses for teachers. Special support was given for planning curriculum units. The educational plan on production was adapted to the curriculum and has been used in schools for training staff members and teachers in preparing and carrying out plans.

Educational techniques were improved by training teachers in institutional strategies and educational orientation. Administrative accounting was also improved in the schools, with the assistance of technicians from the Central Department.

A project to develop the Paraguayan system for agricultural technology generation and transfer, administered with funding from the IDB, was successfully completed. Final reports were turned in by contract personnel and the coordinator, along with a listing of reports by long-term and short-term scholarship holders, and quarterly reports.

A CEPI team was assisted in preparing the third phase of a project for improving levels of technology used for control and regulation of agricultural inputs and products. Available technology was identified for the major crops growing in the southwestern zone of Caaguazú department and was publicized using mass communication in the area. The demand for technology was gauged, and experimentation began on how to meet this demand.

The project to support agricultural credit for rehabilitation was assigned a physical area in the Coronel Oviedo region, and potential credit users were identified. At the same time, 35 Agricultural Credit User Associations (AUCA) modified their areas of influence in accordance with membership movements and the areas assigned to supervisors.

Technicians from the Coronel Oviedo region and from the Central Department were trained in collecting information on borrowers in the area. Personnel were also trained concerning the duties of technicians in the Regional Office.

A document was prepared on operations management, including organization. Draft regulations were prepared on the functions of the credit committee and procedures for Regional Offices. Another document covered the preparation of regional and comprehensive plans of action, and technicians were trained in using this system.

Technicians were trained in providing the Regional Office AUCAs with charters and by-laws, and these documents were then approved by 20 AUCAs. To strengthen this area, both technicians and farmers received training in planning organizational activities. In the area of production and credit planning, technicians and farmers received training, and as a result, all borrowers in the AUCAs now have production and credit plans they themselves prepared.

Work was done with technicians and farmers, encouraging them to begin joint marketing. Earlier experiences were evaluated, and marketing work was supported with a cotton gin belonging to a cooperative in the zone. AUCA members were encouraged to join the Coronel Oviedo Cooperative Ltd.

The Institute prepared a document on commonly used credit instruments and another on medium-term production and credit plans. Technicians received assistance in preparing small-scale associative projects.

Technological patterns were readjusted for credit planning in 1986-1987. This action was carried to the central and regional levels through a training visit by executives to a similar organization in Chile.

Finally, IICA supported the country's activities in multinational projects for animal health and plant protection, as well as PROCISUR.

Strengthening the Institutional Subsystem for Agricultural Marketing*

The project for strengthening the agricultural marketing subsystem began in 1982, with the signing of a general agreement for technical cooperation with the Ministry of Agriculture and Livestock.

This project consolidated the Service for Production Estimates and Forecasting. A new experimental phase began with the Market Information Service for Farmers, and an experimental stage was continued with the Marketing Extension Service.

The Office of Agricultural Marketing and Economics (DCEA)

* Please refer to footnote on page 10.

received support in the supervised program for soy exports, as this is one of the country's major export products. As a result, marketing extension agencies were opened, marketing committees were set up, and regular operations began for market promotion. Information on market prices and conditions began to be published regularly by the Marketing Extension Service, and farmers received support in selling their products to preferred clients. Plans for planting were based on harvest estimates derived from surveys of planting intentions and analysis of price trends.

The Agricultural Credit Service for Rehabilitation received sup-

port in developing credit users' associations for small-scale farmers who presently do not have access to conventional agricultural credit.

The objectives of advisory services in the new stage of the project include: a) preparation of annual plans of operation, detailing tasks and actions to be taken every year, goals and DCEA strategies; b) design of a DCEA operating structure based on its powers and responsibilities; and c) determination of the functions of each department and unit, their different organizations, and other factors related to DCEA operations.

PARAGUAY						
Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Resources Amount	Resources IICA	Resources Total
Development of the Agricultural Technology Generation and Transfer System	Administer IDB funds for advisory services and human resource training.	Project completed in April, 1986. Ten long-term scholarships granted and a final report prepared.	IICA/IDB/MAG (3-4)	42 125	5 919	48 044
Strengthening the Agricultural and Forestry Education Subsystem	Develop a system of schools and businesses in rural Paraguay.	Until 1985, project funded by IDB and administered by IICA. This period saw consolidation, including curriculum plans, teacher training and definition of production systems and goals.		0	85 100	85 100
Use and Evaluation of Methods for Technology Generation and Dissemination in Production Units	Support the Office of Agricultural and Forest Research and Extension in disseminating technology based on production systems.	Available technology identified for major crops in south-eastern zone of Caaguazú department. This technology disseminated using mass media. Technological demand identified and experimentation begun for meeting it.		0	86 200	86 200

PARAGUAY		Project Objectives	Progress Towards Meeting Objectives	External Resources		Resources	
Project or Action				Source	Amount	IICA	Total
Strengthening Agricultural Rehabilitation Credit in its Supervised Credit Program	Support training in operating units of the agricultural rehabilitation credit for small-scale farmers, to improve the performance of duties.	Coronel Oviedo area selected, and potential credit users identified. 35 agricultural credit user associations assisted in readjusting their areas of influence in accordance with movement of members.		0	74 100	74 100	
Strengthening the Institutional Subsector for Agricultural Marketing	Support the Office of Marketing and the technical advisors of the Ministry in the National Marketing Plan.	Services consolidated for production estimates and diagnosis. Experimental phase begun with Market Information Services for Farmers and Market Extension Service. DCEA supported in proposal of program for supervising soy exports. Regular operations established for promoting information on market, prices and market conditions. Assistance in planning plantings based on farmer intentions.		0	90 700	90 700	

URUGUAY

IICA began a process in 1986 to realign its program in accordance with priorities emerging from agrarian policy changes in the country. It continued to support a national program on conservation and management of land and water resources and to promote regional agricultural development in the country. Cooperation was also stepped up in the following areas: a) development of institutional mechanisms for technology generation and transfer; b) domestic and foreign agricultural marketing strategies to favor small-scale producers; c) institutional strengthening at the farm level; and d) animal health.

Project action

Technical cooperation to develop institutional mechanisms for agricultural technology generation and transfer was concentrated on three interrelated areas. The first was support for the Ministry of Livestock, Agriculture and Fisheries (MGAP) to determine the scientific, technical, economic and operational foundations for the project to establish an agricultural research institute in Uruguay.

In this area, IICA contributed to the formation of opinions on institutional architecture for the new Uruguayan Agricultural Technology Institute. Various groups were interested in the shape of the management and planning system for the future organization, and the participation of each one was determined. Background information was compiled, reviewed and analyzed to justify the establishment of the organization and its scope. This final achievement resulted from a short-term action that will be discussed below.

A careful analysis was performed of the country's agricultural environment, including production, inputs, marketing and exports, as well as the role played to date by the Alberto Boerger Agricultural Research Center (CIAAB) and the M.C. Rubino Veterinary Research Center (CIVET) and their staff, lines of action, organization and budget.

The second major focus of work by the project included high-level academic training for CIAAB specialists at universities in Europe and the United States. In addition, a group of scholarship

holders and researchers from the CIAAB received specialized training in statistical analysis and information processing with the use of personal computers.

A third area of activity was analysis of an agricultural and livestock production system designed to meet the needs of medium-sized and large farms located in deep soil areas of the northeastern part of the country. This production system has been supported and studied by IICA for five years.

A short-term action grew out of these activities and consisted of a diagnostic study and definition of the basis for institutional changes in agricultural research in Uruguay. This assistance in developing the Uruguayan Technology Institute fits in with a future project that will include various countries currently interested in readjusting their national research systems. Its results will also be useful for establishing the new Institute. One specific product was a diagnostic study of key characteristics of the use of research resources by the MGAP system, which includes the CIAAB and the CIVET. The central purpose is to produce reference material that will justify transforming the system and its organization.

The IICA project that works with the agricultural research program has supported development of a livestock production system which has been used for some years in the Bañados de Medina Experiment Station of the School of Agronomy.

The formulation and implementation of a national program for conservation and management of land and water resources in Uruguay depends on the availability of technological packets for different crops and on the development of production systems that protect soil productivity and increase crop productivity. These systems comprise crop rotations between natural and artificial pastures and annual crops. A special challenge in Uruguay is the presence of agricultural units known as *granjas*, which raise vegetables as well as traditional farm crops (corn, potatoes, yams and beans) and include small grazing areas to produce milk and meat for family use and to support draft animals.

The *granja* has complex problems and holds major social implications for the country because these production units contain less than 50 hectares of land, mostly worked by the farmer owners and their families. For this reason, the conservation project has concentrated on the *granja* and has moved in two specific directions. The first is to support hydrological research and adapt new crops to

Uruguay that can be useful in the types of production systems being developed.

The other area of action is the use of predesigned technological packets, of proven value, for trials in farmer fields using traditional working methods. In almost all cases, the trials have given favorable results in terms of productivity and income for the small-scale farmers, and have been used as a means of dissemination. Demonstration trials of this type have been held with numerous *granja* farmers in the departments of Tacuarembó, Artigas and Canelones.

The subject of erosion control and proper water use has traditionally fallen by the wayside because of urgent needs for food production. Traditional models of erosion control, terrace construction and perennial crops, are increasingly difficult to apply. Their cost is high, they require additional time, and their effectiveness in question. For this reason, it was decided to measure the erosiveness of rainfall throughout the country and promote research on new crops that can be included in conservationist production systems.

The project also examined support practices, designing a way to improve the allocation of land plots by working prior to planting to establish networks of roads, drainage channels and terraces, if necessary. The replotting process also included channels for irrigation ditches.

Some technological packets require the use of supplementary irrigation, and for this purpose, the project designed methods for collecting and transporting water and applying it to crops. The use of underground water, both phreatic and confined, was reviewed, and equipment was designed for pumping, for hoses and transporting irrigation water. Accessories were developed for distributing water among the ditches to ensure uniform application.

IICA promoted a strategy for domestic and foreign agricultural marketing to favor small-scale farmers. Progress was made in this field to strengthen the MGAP Office of Agricultural Programming and Policies and other marketing offices in the Ministry. Technical cooperation took the form of direct action, training through in-house seminars, publications and assistance for attending courses abroad.

A technical team was put together to be in charge of agricultural foreign trade in the MGAP. A joint effort led to the design of an information system and the acquisition and organization of basic data for beginning a Foreign Trade Service in the Ministry. It was

first necessary to identify users and input supplies for this Service. A study was made of the suitability and timeliness of existing external viability plans for 30 agricultural commodities.

IICA supported farmer associations in 1986, especially those which included small-scale and medium-sized producers. Studies were performed and domestic and foreign market profiles were developed for selected vegetables and special trade programs.

IICA also cooperated with the Confederation of Agrarian Cooperatives (CAF), which includes all the country's farmer organizations, by preparing a document on production and problems in the country's *granjas*. This study was called the "Innovative *Granja* Proposals."

A short-term action to strengthen the institutional system for *granja* support began in October, 1986. The government has attached high priority to this area because the *granja* (which produces vegetables, fruits, wine grapes, and small livestock) accounts for a high number of small-scale producers who face major difficulties in production and marketing. This subsector is potentially dynamic and can have a major social impact, and agreements have been signed with Brazil and Argentina under which production on the *granja* can be expanded.

Development of the *granja* would require the farmer organizations to improve their ability for preparing projects and would necessitate greater capability on the part of MGAP to evaluate these projects, allocate priorities and obtain funding. Finally, the Municipal Intendancy of Canelones (IMC), where 80 percent of the *granjas* are located, must be able to support project implementation.

Major achievements to date include the establishment of a project evaluation unit in the MGAP, progress in organizing an IMC project office, and initial support for CAF in identifying project ideas at the grass roots level.

Activities in the area of agricultural marketing and agroindustry in Uruguay included the promotion and diversification of agricultural exports through: a) cooperating in the design of agricultural marketing subsystems to ease the country's terms of trade and the market position of small-scale and medium-sized producers; and b) preparing production and marketing projects for farmer associations.

Training in animal health was given throughout the year to technical personnel in short courses, seminars and field days. These

events were designed to improve plans of action in the General Directorate of Veterinary Services. Support was given to a university course on curriculum evaluation for veterinary education and improvement of teaching methods.

Other action has included an exchange of managerial and technical personnel for transfer of scientific information, and upgrading standards and procedures to facilitate commercial exchange. Special mention should be made of the Consultative Meeting on the Use of Hormonal Substances in Animals. The meeting took place in Montevideo in December and was held for the purpose of examining possible consequences of the use of anabolic products in the commerce and exchange of beef products.

The most important actions were:

- Implementation of the network of veterinary diagnostic laboratories for the Southern Area, and the consolidation of an epidemiological surveillance system, with an emphasis on acute swine diseases in Uruguay and Paraguay.
- Review and modification of a project for eradication of foot-and-mouth disease, bovine tuberculosis, and bovine brucellosis, and for tick control in Uruguay, submitted to the IDB for funding.
- Readjustments in plans for a coordinated brucellosis control system in the dairy zones of Uruguay.
- Training for managers, technical specialists and producers to facilitate and increase their participation in health programs, dissemination of health protection technology through technical publications, and strengthening of regional actions by combining the efforts of several countries to improve commercial exchange.

Regional Agricultural Development in Uruguay*

This project stands out because of its regional approach and its degree of maturity.

It is a forum for interdisciplinary technical coordination between IICA office specialists in Uruguay and those of the IICA

offices in other countries, in which the Institute has supported national actions for regional development in the northeastern and northwestern zones.

Activities in the northeastern zone included cooperation with the Municipal Intendancy of Tacuarembó and the MGAP, to improve standards of living for small-scale producers in the areas surrounding Tacuarembó. This project consolidated the formation of action groups in the Municipal Intendancy of the Zone. External technical cooperation, funded by the IDB and coordinated by IICA, made it possible to hire eight national experts to support the implementation of credit and to assist small-scale farmers. The first credits were granted in August, 1986.

This project merits special attention for its peculiar characteristics, not only in Tacuarembó, but also at the national level as an institutional experience with the use of credit for small-scale farmers. One of the components of the project is nonreimbursable technical cooperation, coordinated by IICA.

Institute efforts in the northwestern zone focused on coordinating official institutions and farmer organizations and strengthening them. Participating groups include the Limited Agricultural Cooperative of Northern Uruguay (CALNU) and member cooperatives of CALAGUA (for irrigation water), CALVINOR (vineyards and wineries) and CALPICA (production and industrialization of sugar cane), coexecutors of the Northern Slope Program of Uruguay (VERNO). Funding for this program was approved by the IDB in July, 1984, and IICA was to coordinate and administer technical cooperation. Major activities have included supporting the implementation of regional development projects, consolidating institutional organization of these projects, training managers, technicians and farmers, and conducting export marketing.

The VERNO program, which includes diversification and development of cooperatives in the northern part of the country, completed its second year of activities. It consolidated institutional technical teams that will carry out the projects and began to construct infrastructure, purchase equipment, conduct agricultural research and extension, and hire external consultants.

IICA has been cooperating actively in the selection and training of technical teams from the cooperatives and strengthening the state action groups and Ministry offices located in this zone. IICA's activities took the form of direct action, training and scientific brokerage, and resource administration.

* Please refer to footnote on page 10.

The major areas of program concentration were project methods for use at the country level and on each farm, irrigation, agricultural economics, marketing and agroenergy. Cooperation was provided by holding two internal seminars for technicians, man-

agers and producers.

Another important facet of this joint effort in the two zones has been the institutional and political experience acquired through the project for consolidating a regional development approach.

URUGUAY						
Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Resources Amount	Resources IICA	Resources Total
Technical Cooperation for Developing Institutional Strategies and Mechanisms for Agricultural Technology Generation and Transfer	Form and consolidate a national mechanism for coordinating and guiding the National Technology Generation and Transfer System.	Opinions and concepts development on institutional architecture for the Uruguayan Agricultural Technology Institute; information compiled, reviewed and analyzed to justify creation of an agricultural technology organization.	IICA/MGAP CIAAB	81 000	64 022	145 022
Regional Agricultural Development in Uruguay	Help achieve major, stable increases in small farmer income in areas surrounding Tacuarembó and the north-western zone, for generation of economic surplus to be reinvested on the farm.	Action in training, technical/scientific brokerage, and resource administration in areas of project methodology at regional and farm levels, irrigation, agricultural economics, marketing and agroenergy. Support for consolidation of action groups at zone level.	IICA/ CALAGUA/ CALPICA	163 400	72 471	235 871

URUGUAY				Resources		
Project or Action	Project Objectives	Progress Towards Meeting Objectives	External Resources Source	Amount	IICA	Total
Promotion of a National Program for Conservation and Management of Land and Water Resources	Cooperate in researching conservationist styles of agriculture and livestock raising to help implement a national plan for erosion prevention and control and define mechanisms for applying it among farmers.	Development of an agricultural and livestock production system in the Los Bañados de Medina Experiment Station. Support activities concentrated on hydrological research and adaptation in Uruguay of new crops that could be used in production systems being developed. Support for on-farm testing of production systems, with satisfactory results in terms of farmer income and soil conservation.		0	73 800	73 800
Domestic and Foreign Agricultural Marketing Strategy to Favor the Inclusion of Small-Scale and Medium-Sized Food Producers	Design strategies for domestic and foreign marketing that will favor institutional and operational planning of agricultural marketing sub-systems, especially for including small-scale and medium-sized producers in the market, with exportable products.	Technical team set up and placed in charge of external agricultural markets, as part of the Ministry of Agriculture. Basic information organized for external market services. A study completed on organization and updating of foreign market feasibility analysis for 30 basic commodities. Support for associations of producers and cooperatives.		0	31 000	31 000

MAJO

Este mes se llama calchay, zara arcuy, zara tipi, zara muchay quilla, que an de amontonar el maíz y mondallo y desgranallo y se a de sacar la cimilla aparte lo mejor maíz de comer y lo peor para chicha, muho zara, alin zara, chusu zara, huto zara. Cada uno déstos se a de poner en sus lugares en sus bodegas y guardarse para todo el año.

Este dicho mes es bueno engordar caballos y zebar puercos, zebones para matar.

En este mes los niños y niñas que nasen son rricos, benturosos que sale en tiempo de la rriquiesa de comida que los páxaros, rratones comen.



Chapter 2

Multinational projects

IICA's multinational nature dates back to the Institute's founding and reflects its standing as an international organization. IICA emphasizes a multinational focus as a way of interpreting its mandate "to encourage, promote and support the efforts of the Member States to achieve their agricultural development and rural well-being."

This dedication to multinational action first took shape when the regional offices were opened (Montevideo, Uruguay in 1951 and Lima, Peru and Havana, Cuba in 1952) as the primary means of projecting IICA's work in the countries. Operations take place through regional technical cooperation projects.

More recently, the operating approach reveals a growing concern for bilateral cooperation in the form of national projects carried out by the IICA offices in each country. Even so, the multinational dimension continues to be visible in the definition of lines of action, programs and multinational projects designed to solve problems shared by various countries and to encourage the horizontal transfer of experiences.

The new 1987-1991 Medium Term Plan fully reflects this long-standing tradition of multinational action in IICA. A new political desire for cooperation and integration is beginning to emerge and opens new possibilities for the countries as a whole. IICA's stature as an international organization gives it clear comparative advantages for translating this new will into reality through concrete actions at the technical level. This is why one of the four basic criteria used in selecting the subject areas addressed by Institute programs during this period was that "they must lend themselves to a multinational approach." Furthermore, the direc-

torates of the programs were given an operating structure making them responsible for the promotion and implementation of multinational action in their specific subject areas. This emphasis became visible in 1986 through new efforts introduced in the framework of the approach adopted in the Medium Term Plan.

Three types of projects should be underscored in this connection. They use differing approaches and methods, but they illustrate IICA's form of operation at the multinational level.

The first type of effort includes projects designed to promote and facilitate horizontal technology transfer. Of special mention in this category are the Cooperative Agricultural Research Programs for the Southern Cone (PROCISUR) and the Andean Subregion (PROCIANDINO), and the Research Network on Animal Production Systems in Latin America (RISPAL). Also deserving of mention are the Andean Network of Animal Health Diagnostic Laboratories; the Animal Health Information System for the Caribbean; and finally the Regional System of Epidemiological Information on Swine Diseases.

A second category includes activities designed to explore approaches and find solutions to problems shared by all or many of the member countries. This includes the Cooperative Program for the Protection and Modernization of Coffee Cultivation in Mexico, Central America, Panama and the Dominican Republic (PROMECAFE); the Project for Training and Studies on Agrarian Reform and Rural Development in the Central American Isthmus and the Dominican Republic (PRACA); the Integrated Development Plan in the Border Zone of Guatemala, El Salvador and Honduras (TRIFINIO); the Multinational Planning and Management Project for Rural Development in Latin America and the Caribbean (PROPLAN); Strengthening Managerial Skills in Associative Agricultural Production Enterprises (FORGE); the Project for Rational Use of Renewable Natural Resources in the Humid Tropics of the Amazon Countries (IICA-TROPICOS); the Project for Agroenergy Cooperation; the Screwworm Eradication Project for the Central Area; and finally the Eradication Project for the *Amblyomma variegatum* Tick and Hydropericardium in the Eastern Caribbean.

The third type of effort concentrates on developing structures that will facilitate integration and coordination among groups of countries, either generally or with a focus on specific areas. The

activities of the Regional Council for Agricultural Cooperation in Central America, Panama, Mexico and the Dominican Republic (CORECA), for which IICA operates the Secretariat of Technical Coordination, provide a clear example of this approach, as do the training activities of the Inter-American Secretariat for Rural Youth (SIJR) and the project for Prevention and Control of Livestock Pests and Diseases in the Countries of the Caribbean.

Below are brief summaries of the most important multinational projects carried out during 1986.

COOPERATIVE AGRICULTURAL RESEARCH PROGRAM FOR THE SOUTHERN CONE (IICA/IDB/PROCISUR)

The Cooperative Agricultural Research Program for the Southern Cone (PROCISUR) is a forum for reciprocal assistance, cooperative endeavour and joint action, whereby the participating institutions in six South American countries (Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay) are able to: a) support and strengthen creative and adaptive research; b) cooperate in the transfer of technology and know-how from other countries and international research centers; and c) intensify the exchange of know-how, experiences and materials among countries in which conditions are relatively similar.

The program carries out its activities under a new agreement signed between IICA, the Inter-American Development Bank and the six participating countries. This agreement calls for an investment of six million dollars for activities in four basic subprograms devoted to specific products (cattle, summer cereals, winter cereals and oil seed crops) and four support subprograms (production systems, technology transfer and training, information and documentation, and communication).

The program has a director, two support specialists, six international coordinators (three from the Brazilian Agricultural Research Institute, EMBRAPA, and three from the Argentine National Agricultural Technology Institute, INTA) and 42 national coordinators. Its major areas of activity are reciprocal technical cooperation, including observation trips, national and international technical advisory services, and training.

In the area of Reciprocal Technical Cooperation, four meetings were held with national coordinators, attended by 25 participants,

and eight meetings and seminars were attended by a total of 333 people. Many of these participants were funded by sources other than PROCISUR, which reflects high interest in these activities on the part of technical people and researchers in the countries. It is also a sign of support from the institutions.

National advisory services call for technical personnel from a country to travel to another country and provide technical assistance in a specific area. Under this heading, 33 missions were carried out, involving all six PROCISUR countries.

Observation trips allow technical people from a country to visit another country and observe significant progress on site. Under this heading, 86 researchers visited areas of interest in five PROCISUR member countries. Most of the visits were made to Brazil (51), Argentina (23) and Chile (12).

Four different opportunities arose for international advisory services to be provided by specialists from the United States of America and England. Areas of interest included grain preservation, genetic improvement of winter cereals, and gauging the economics of pest damage and control measures in corn. Modern techniques of immunization through electronic microscopic methods were also covered.

PROCISUR provided advisory services in 1986 to a number of specialists from research institutions in the participating countries. For example, technicians from CIMMYT assisted the National Institute of Agriculture in Paraguay in the installation and management of seed processing plants, focused on production of basic corn materials in Santa Cruz, Bolivia. Advisory services were provided in Uruguay by the International Center for Tropical Agriculture (CIAT) on the inclusion of new products in production systems. CIMMYT assisted Argentina and Paraguay with the *Fusarium* fungus, while a CIAT specialist assisted Argentina and Uruguay in pasture production and use.

Training services included three courses attended by a total of 121 participants, six in-service training experiences and nine training opportunities in other specialized institutions, such as international centers.

In summary, 175 tasks were carried out in 1986, for 697 participants. These activities took place under the direct supervision of the Committee of Directors, which met twice during the year.

PROCISUR staff included a communication specialist, and the program markedly increased its publication of technical material

produced during meetings and seminars. This provided area researchers with the results of work taking place in the six countries. Five issues of the series *Dialogo* were produced and distributed in 1986, covering such subjects as barley, oat and triticale research; rust diseases in winter cereals; technology for improving corral reproduction rates; typification and classification of production systems; and systems for tillage and soil conservation.

Communication between the program and researchers was increased through the publication of a monthly news bulletin on present and future activities, including up-to-date information on courses, meetings and conferences, and book reviews.

The following activities provide clear illustrations of the working style adopted by PROCISUR.

- Sunflower improvement. A meeting of sunflower specialists was held in Cordoba, Argentina in the second half of 1985. A cooperative trial was scheduled for the six member countries of PROCISUR, each of which sent its two best genotypes for use in the trial.
- Soybean improvement. Large volumes of genetic materials flowed from Brazil during the year, as this country possesses the best soybean technology for tropical and subtropical regions. Approximately 1,200 genotypes were sent to Paraguay, 600 to Argentina, 300 to Bolivia and 100 to Uruguay. Chile, which has a cooler climate, was not able to use the materials developed in Brazil and Argentina. Presently under study is the effect of relative humidity on this product.
- Components of production systems. A seminar took place in Montevideo, Uruguay in August to discuss the inclusion of different items in production systems. The most important feature of this event was that it brought together the national coordinators of the four subprograms for each product, so that considerable progress was made in studying the topic of the seminar. The participants were able to encourage their different institutions to develop the systems approach as an important means of integrating the work of researchers and setting up interdisciplinary teams.
- Use of pastures for beef and dairy production. A technical meeting held in La Estanzuela Experimental Station in Colonia, Uruguay was attended by a record number of 109 specialists in the subject (50 from Argentina, Brazil, Chile, Bolivia and Paraguay).

Results of this technical meeting were excellent, as more than 30 research papers on the subject were given. The specialists in attendance presented a complete picture of the subject of forage germplasm as a key element in production systems in the Southern Cone. Discussion included multilocational evaluation of forage germplasm and experiences with the network of tropical pastures. Also examined were homogeneous ecological areas in the temperate zone of the Southern Cone. These presentations provided information on the present status of knowledge on forage germplasm and major problems in each country.

PROCISUR, with the approval of its Committee of Directors, proposed the establishment of a network for the introduction, selection and evaluation of forage germplasm in the temperate and subtropical areas of the Southern Cone. This work is now being implemented.

- Genetic improvement of winter cereals. A short course was held with PROCISUR, CIMMYT and the National Wheat Research Center (CNPT) of EMBRAPA in Passo Fundo, Rio Grande do Sul, Brazil. The topic was genetic improvement of winter cereals, and the course was attended by over 60 people. This topic is extremely important in view of the need to continue producing high-yield varieties that are resistant to such diseases as rust, so as to improve local yields. Production is presently too low to meet the self-supply needs of winter cereals, especially wheat. The new varieties of this cereal have the genetic potential to yield four or five times more than industrial crops, and therefore it is essential to study the causes of low yields in the field and disseminate information on improved technology for soil management, tillage systems, pest and disease control, and cropping practices that will make the best possible use of varieties developed in research centers and released for use in the field.
- Management, retrieval and use of scientific and technical information. EMBRAPA headquarters in Brasilia, Brazil hosted an event of great importance for improving the understanding of modern systems for information computerization and retrieval, and for bibliographic exchange in response to the growing needs of users of technical information. The model as presented has worked extremely well in Brazil, as can be seen in various studies on the socioeconomic impact of

investments in research, the results they have given, and their profitability (EMBRAPA, Department of Studies and Research, 1985-1986).

- Support for corn germplasm banks. Cochabamba, Bolivia was the site of a meeting on this topic, attended by specialists from Bolivia, Chile, Paraguay and Uruguay. The meeting discussed the relations between this subprogram and that of the International Genetic Resources Council (CIRG), established by the Consultative Group on International Agricultural Research (CGIAR) in 1974, which is working on corn germplasm evaluation in the Southern Cone for the purposes of grouping subspecies. The major result of this meeting was a listing of compounds of corn subspecies in the four countries, with indications of the amount of seeds available and the potential for use over the short term.

COOPERATIVE AGRICULTURAL RESEARCH PROGRAM FOR THE ANDEAN SUBREGION (PROCIANDINO)

The PROCIANDINO Agreement was signed in March, 1986, by IICA, the governments of Bolivia, Colombia, Ecuador, Peru and Venezuela, and the Inter-American Development Bank. This agreement provides for nonreimbursable technical cooperation, for which the IDB will provide \$ 2.3 million. The countries will provide national counterpart contributions equivalent to \$ 1.225 million, while IICA will contribute \$ 275,000 for the three years of project implementation.

Four specific technical meetings were held in 1986 on each of the products included in the project—potatoes, grain legumes, corn and oil seeds. These meetings provided the coordinators with input for developing the three-year plan and the first annual plan of action for the project, which includes diagnostic studies of production and research for each product in each country. It also sets standards for preparing research projects to be implemented beginning in April, 1987, and describes activities for coordination, advisory services and training to take place during the three years of project activities.

Final approval of the two plans by the IDB is expected for March, 1987. At that time, the three years of project action will begin.

PROCIANDINO will be planned and carried out by IICA and the IDB, working directly with the Bolivian Agricultural Technology Institute (IBTA), the Colombian Agricultural Institute (ICA), the Ecuadorian National Agricultural Research Institute (INIAP), the Peruvian National Agricultural Research and Outreach Institute (INIPA), the Venezuelan National Agricultural Research Fund (FONAIAP), the International Potato Center (CIP), the International Center for Tropical Agriculture (CIAT), and the International Center for Corn and Wheat Improvement (CIMMYT).

RESEARCH NETWORK ON ANIMAL PRODUCTION SYSTEMS IN LATIN AMERICA (RISPAL)

This network was established in February, 1986 through an agreement between IICA, the Tropical Agriculture Research and Training Center (CATIE), the Peruvian National Agricultural Research and Outreach Institute (INIPA) and the International Development Research Centre (IDRC). The agreement is made up of three understandings between IDRC, as the donor agency, and each of the other three technical institutions.

The objectives of RISPAL area:

- a) to strengthen ties among national, regional and international institutions by promoting coordination and information exchange;
- b) to encourage the development of research methods for animal production systems and promote their use;
- c) to evaluate and recommend tested technology for transfer to small-scale producers through local institutions;
- d) to strengthen local programs and institutions by providing technical support and training for their teams.

The agreement establishes an executive secretariat at IICA, headquartered in San Jose, as the general coordinator of RISPAL. This secretariat will provide technical support to the 14 projects in the network (one each in Mexico, Guatemala, Dominican Republic, El Salvador, Costa Rica, Panama, Colombia, Chile and Guyana, and five in Peru). CATIE is responsible for training and advisory services, while INIPA will hold an international meeting on research methods. The three institutions will also conduct research.

RISPAL began its activities in May, 1986, and by the end of the year had carried out a variety of activities:

- An international seminar was held in Lima, Peru on information management and analysis in livestock production systems, attended by 18 technicians from 12 projects.
- The executive secretary and other project leaders supported nine network projects in the areas of evaluation of technological alternatives, modeling, research planning, training and activity programming.
- Quarterly RISPAL newsletters were published to maintain high levels of communication among projects. These newsletters contained abstracts of publications on animal production systems and announced project activities and scientific events. They were written in Spanish and contained a summary in English.

ANDEAN NETWORK OF ANIMAL HEALTH DIAGNOSTIC LABORATORIES

All the countries of the Andean Area have placed high priority on the need to operate existing veterinary diagnostic laboratories efficiently. This requires training and refresher courses for professional and technical personnel, equipment maintenance and upgrading, modernization of techniques, and sufficient, timely delivery of supplies. All these inputs are costly and difficult to obtain.

IICA sponsored the establishment of an Andean network of animal health diagnostic laboratories during the meeting of directors of veterinary diagnostic laboratories of the Andean Area, held in 1986 in Bogota, Colombia.

The purpose of this network is to encourage all the countries to take a new look at the operations of their laboratories and adapt them to the conditions and needs of animal health and livestock development programs.

The proposal is to restructure the operations of the laboratories by staggering the services. They will then be connected through effective, complementary systems in five national networks, with an area-wide network to connect the countries of the Andes.

IICA will serve as the technical secretariat of the network and will encourage exchanges of technological information, experiences, specialists and training facilities.

ANIMAL HEALTH INFORMATION SYSTEM

The study on Animal Health Information began in coordination with CARICOM and North Carolina State University, with financial support from IDRC. The project was approved by the ministers of agriculture, and its purpose is to improve national information systems and allow the countries of the Caribbean Area to join the international information network.

This study was developed in light of information about conditions prevailing in the Caribbean. Animal health problems do not hold high priority. Epidemiological surveillance measures are inappropriate and incomplete. Data as collected lack significance and value. The area is highly interdependent, and this makes it essential for important information to be shared and for a mechanism to be established for transmitting information and technological, scientific know-how as it is acquired. For this purpose, a feasibility study was performed on developing an animal health information system in the Caribbean.

REGIONAL SYSTEM OF EPIDEMIOLOGICAL INFORMATION ON SWINE DISEASES

The successful eradication of African swine fever from Brazil, Cuba, Haiti and the Dominican Republic encouraged many countries of Latin America to take decisive action for the elimination of classic swine fever (hog cholera) from their herds. Epizootic countermeasures are required for this purpose, and they must be supported with surveillance and reporting systems for all septicemic diseases in pigs.

IICA therefore took the initiative, in coordination with the Pan American Foot and Mouth Disease Center of the Pan American Health Organization, of implementing a regional system for epidemiological information on swine diseases.

This system consists of a weekly hook-up of the plant health information systems in participating countries, eventually to include all the Institute's 29 Member States. They will receive information on the appearance, distribution and behavior of these diseases. The information is extremely important for all countries because it helps them follow the movement of diseases and trace the normal incidence. Participating countries will quickly learn about outbreaks in any other country and be able to take appropriate action, such as quarantine measures, stepped-up collection of samples, or a special inoculation program.

COOPERATIVE PROGRAM FOR THE PROTECTION AND MODERNIZATION OF COFFEE CULTIVATION (PROMECAFE)

PROMECAFE is a regional cooperative program for improving coffee cultivation in Mexico, Central America, Panama and the Dominican Republic.

The program began in 1978 when IICA signed an agreement with the countries of the area, which pledged to provide funding for five years. When the five-year period terminated, an extension was signed through December, 1987. During the years, the program has received additional funds from the Brazilian Coffee Institute, and from the government of France through the Coffee and Cacao Research Institute, and a five-year donation from the Regional Office for Central America and Panama of the United States Agency for International Development (USAID-ROCAP).

The general objective of the program has been to use regional technical cooperation as a means for promoting improvement in coffee cultivation, thus increasing productivity and income levels, especially for small-scale farmers. The specific objective has been to strengthen national coffee agencies in the member countries, using IICA action to improve their responsiveness to technical factors that limit the process of improving coffee cultivation.

For this purpose, the program has placed high priority on upgrading technology and adapting it to the real circumstances of most coffee growers. The program has developed instruments with which to transfer available technology, it has generated experimental information for framing specific recommendations on con-

trol of major pests and diseases, and it has identified rust-resistant, high-yield varieties. Further strategies include dissemination of technical and scientific information on coffee, strengthening physical research facilities and improving the technical and scientific quality of human resources in this field.

PROMECAFE has organized its work into specific activities: a) general activities (technical and logistic support); b) coffee rust control; c) control of coffee berry borer; d) control of pesticide residues in coffee; e) development and reproduction of rust-resistant varieties; f) development, adaptation and reproduction of appropriate technology; and g) information systems and data bases.

Tasks carried out under these activities include technical support, studies, direct action, reciprocal technical cooperation and training.

PROMECAFE has made the following major achievements in its various areas of activity:

- Coffee rust control. The project has worked in cooperation with coffee organizations in the countries of the area to compile concrete information on the epidemiological behavior of rust. Specific indications are now available on how to control rust using chemical and cropping techniques. It is believed that the use of copper can be minimized if control begins at the proper time, thus reducing the number of applications and the amount of water needed.
- Coffee berry borer control. More is now known about the biology and control of this insect. Several experiments are still incomplete, pending the receipt of data on next year's harvest.
- Pesticide residue control in coffee. Certain pesticides used in coffee can accumulate, reaching concentrations that are dangerously high. The most dramatic case is that of lead impurities. Results are now available from sample studies take in experiments designed especially to detect these residues.
- Development and reproduction of rust-resistant varieties. All countries have tested the adaptability of varieties with high yield, good quality, uniform presentation and rust tolerance. These findings are leading to development of a variety especially adapted to small-scale farmers, that will make it possible for them to continue producing coffee without using

chemical rust control. Work has also been done in the tissue culture laboratory, presently one of the few that are equipped to reproduce coffee on a commercial scale using microcuttings. Work on somatic embryogenesis, while less advanced, has made considerable progress.

- The development, adaptation and transfer of appropriate technology. Specific methods for the technology generation and transfer process have been used in this activity. One step is to study and describe the coffee production system in its specific physical, biological and socioeconomic environment, to identify its limitations and design technological options needed for control. These options are then farmer-tested, and finally, the technology is transferred using the method known as "friendship and work groups." This process is now underway in Guatemala, El Salvador and Honduras.
- Information systems and data bases. Individual support has been provided to the countries in setting up national information centers and forming them into a network. The documentary data base on coffee is almost complete, with 7,000 indexed references, catalogued in a computerized system to facilitate proper use.

Human resources training is the instrument most used by PROMECAFE. In 1986, over 25 training events took place, ranging from simple, brief courses to more formal workshops, and even including an advanced course on coffee cultivation, which lasted six weeks. These courses provided training for nearly 800 specialists. PROMECAFE was also active in publication, producing two issues of the PROMECAFE Bulletin and distributing it to over 1,200 specialists in the area.

TRAINING AND STUDIES ON AGRARIAN REFORM AND RURAL DEVELOPMENT IN THE CENTRAL AMERICAN ISTHMUS AND THE DOMINICAN REPUBLIC (PRACA)

The Project for Training and Studies on Agrarian Reform and Rural Development in the Central American Isthmus and the Dominican Republic (PRACA) is a cooperative program consisting of the agrarian reform and settlement agencies of the participating countries.

PRACA originated in November, 1966 as a result of the first meeting of agrarian reform executives of the Central American Isthmus, held in San Salvador, El Salvador. This meeting was sponsored by the Regional Office for the Northern Zone of the Inter-American Institute of Agricultural Science (IICA at that time) and the Technical Cooperation Program of the OAS.

PRACA's activities every year facilitate the direct exchange of ideas, information and experiences among those responsible for agrarian reform in the area. They often result in publications informing the rest of the world of progress made in agrarian processes. Finally, PRACA particularly supports each member country in meeting its annual goals.

IICA is responsible for administering PRACA and carrying out its plans. Under the project agreement, the Board of Directors of PRACA assigned the executive directorship to the Institute, and IICA therefore has designated a full-time international expert to the project, along with six staff members on a part-time basis, one in each member country. Furthermore, the IICA offices in the PRACA member countries provide general support and the services of office directors and other specialists.

In 1986, as in previous years, PRACA encouraged those responsible for agrarian reform in the member countries to meet and exchange information on their purposes, methods, achievements and difficulties. This has made it possible to identify matters of shared interest and areas for coordinated action reflecting these interests. Several activities have made a direct contribution to upgrading technical capabilities in the participating national agencies for readjusting the pace of reform, fine-tuning the selection criteria, and allotting proportions of resources for distribution as decided by each country.

It is even more important, under present circumstances, that PRACA has continued to convene meetings of representatives from all its member governments, and these meetings have been held in succession in all seven countries. As a result, the agrarian situation in each country has been directly examined by representatives from the other six countries.

The agreement by which IICA and the national agencies brought PRACA into existence expired on December 31, 1986. On January 1, 1987, a new agreement will go into effect, signed by IICA and the seven member countries, creating a new PRACA project in IICA.

PRACA has made indirect contributions to consolidating the processes of agrarian reform and rural development by training agrarian reform beneficiaries and technical personnel from responsible national agencies. PRACA has also contributed through publications that discuss working methods and results achieved, and bear witness to the continued relevance of goals pursued by agrarian reform and rural development in the countries.

Four multinational project profiles have been developed, and a new multinational project is presently being drafted. These documents, approved by the PRACA Board of Directors, will be useful for channeling external resources toward member agencies, so as to strengthen their working capabilities. Also being prepared are plans of action for conducting three research projects with the Catholic University of Louvain, Belgium.

AN INTEGRATED DEVELOPMENT PLAN IN THE BORDER ZONE OF GUATEMALA, EL SALVADOR AND HONDURAS (TRIFINIO)

The governments of El Salvador, Guatemala, and Honduras have decided to formulate and carry out a multinational plan for integrated development of the border zone they all share. Known as TRIFINIO, the project originated in a technical cooperation agreement the three countries signed with the OAS and IICA on November 13, 1986.

The technical organization for project implementation includes a steering committee made up of representatives from the governments, from the General Secretariat of the OAS and from the Institute; it serves as the governing body of the project. Also included are an international directorate and three national units responsible for providing technical support based on timetables and established specializations. The plan of action calls for four programs: economic growth, infrastructure for border integration and development, social development, and institutional development. These four programs contain 14 subprograms, which will be developed over 18 months. Total project costs are estimated at \$ 750,000 and funding will come from the governments of El Salvador, Guatemala and Honduras, the General Secretariat of the OAS, IICA, and the European Economic Community. Activities

anticipated under the project will require 74 person/months of international experts, 240 person/months of technical counterpart personnel from the countries, and logistical support for operation.

Activities in 1986 included five preparatory meetings to work out the project profile, and formulation of a technical proposal for IICA's participation. IICA and CORECA specialists took part in a technical observation tour that culminated with the drafting of proposed technical terms for obtaining funding to carry out actions of immediate impact in the TRIFINIO zone.

IICA appointed a rural development specialist from its regular staff, headquartered in Guatemala City, to combine efforts with an OAS specialist; the two will serve as the international directorate of the project.

MULTINATIONAL PLANNING AND MANAGEMENT PROJECT FOR RURAL DEVELOPMENT IN LATIN AMERICA AND THE CARIBBEAN (PROPLAN/A)

IICA's PROPLAN/A Multinational Project continued in 1986 to cooperate with sectoral institutions in the field of planning and implementation of agricultural and rural development policies. IICA has received financial support in this project from the W.K. Kellogg Foundation.

PROPLAN/A, as a multinational project, operated through a central component at IICA headquarters and four country components, one each in Colombia, Costa Rica, Guatemala and the Dominican Republic. Cooperation activities continued to emphasize implementation of agricultural policies, with a focus on zonal guidance mechanisms for the sector in each country. Attention has also turned to sector-wide program and project management.

Requests from Costa Rica and Guatemala led to an expansion of cooperation in these two countries so as to include the definition and readjustment of agricultural policies.

PROPLAN action gave results in the following four fields:

- Support for selected countries in introducing appropriate guidance mechanisms for high-priority development efforts. Support in 1986 continued for the Colombian Institute of Hydrology, Meteorology and Land Improvement (HIMAT) in

managing its land improvement program, which includes the operation of irrigation and drainage districts. The Costa Rican Ministry of Agriculture and Livestock received assistance in managing its National Program to Increase Agricultural Productivity (PIPA) with a loan from the IDB. The Guatemalan Ministry of Agriculture, Livestock and Nutrition was assisted in guiding sectoral activities in Region VI, headquartered in Jutiapa. The Secretariat of State for Agriculture of the Dominican Republic continued to receive support in managing its Project to Support Small-Scale Farmers (IFAD II), with a loan from IFAD.

Work in Costa Rica during the year also included assistance for the Executive Secretariat of Sectoral Planning for Agricultural Development and Renewable Natural Resources (SEPSA) in farming agricultural sector policies. The Guatemalan General Directorate of Livestock Services (DIGESEPE) received cooperation in designing policies for this subsector.

Guidance mechanisms designed and implemented in these countries have been characterized by certain unique features. In general, these mechanisms have encouraged dialogue among public institutions, and between these institutions, farmers and other key agents of the private sector, so as to achieve the following goals:

- a) providing on-going interpretation of sectoral policies to influence high-level decision-makers, based on regional and local needs and potentials;
- b) guaranteeing that coordinated action at the operating level of sector institutions is consistent with sectoral policy decisions;
- c) ensuring that the identification of problems, setting of priorities and implementation of action in this sector takes place through participatory processes including directors, technical specialists and farmers;
- d) seeing that sufficient resources are allocated for carrying out development programs and projects;
- e) taking steps so that decisions on actions and anticipated results of sectoral policy implementation are modified during the course of the work,

PROPLAN has achieved the participation of some 950 directors and specialists of the agricultural sector and 700 representatives of small-scale farmer organizations and rural communities.

One of the key features of the operation of country components in the project has been emphasis on the "learn by doing and transfer by doing" approach. Thus, the mechanisms have been designed and implemented so that around 1,700 people now have real-life experience in the process of building mechanisms appropriate to the circumstances.

- Training for sectoral directors and specialists. PROPLAN has worked to improve capabilities for analysis, advisory services and decision-making through courses involving 1,800 directors, farmers and specialists from the agricultural sector.

One of the most important results of these training activities has been the development and testing of training materials, based on technical cooperation experiences in the countries. Another outcome was the design and use of training methods applicable to the field of agricultural and rural development guidance.

- Development of appropriate models, methods and instruments for performing the tasks of analysis, advisory services and decision-making in various spheres of the sector. The most important product of PROPLAN activities in this field has been the development of the effective guidance approach relevant to the characteristics of agricultural and rural development in the countries.

The effective guidance approach emphasizes a deliberate effort by those responsible for guidance tasks to engage in an active, ongoing social dialogue by which conflicts are resolved, agreement is reached, and compromises are achieved among the key, strategically identified participants in the sector.

One of the results of activities in this field has been the initial outline of prototype guidance models for: a) definition and implementation of agricultural policies in the sector; b) management of development programs and projects; and c) operation of decentralized models for coordinated provision of services to farmers.

- Design and operation of a hemispheric network for dissemination and exchange of know-how and experience in the fields of planning and management for agricultural rural development.

This activity has fostered close ties with various cooperation and educational entities pursuing goals similar to those of IICA, and with research and consultancy groups active in this field in various countries.

A final activity under the IICA/W.K. Kellogg Foundation Agreement was the Fourth PROPLAN Exchange Seminar, to discuss the central topic of guidance of agricultural and rural development in the present crisis. The seminar was attended by 30 professionals, most of them from institutions with which PROPLAN has maintained close ties through the network.

STRENGTHENING MANAGERIAL SKILLS IN ASSOCIATIVE AGRICULTURAL PRODUCTION ENTERPRISES (FORGE)

The Project for Strengthening Managerial Skills in Associative Agricultural Production Enterprises (FORGE) is an area-wide program for technical assistance and management training in associative production enterprises. This project took place in Costa Rica, Honduras, Nicaragua and Panama, with the goal of strengthening the institutional capabilities of national organizations responsible for providing technical assistance to associative enterprises. A second purpose was to train those members responsible for administration. The project was funded by the European Economic Community, administered by France and carried out by IICA. It had a three-year duration and completed its activities in the countries during the first half of 1986.

The project trained national specialists and improved the technical assistance capabilities of national institutions in the four countries. The goals for training specialists and members were met and surpassed in all countries. The most important project achievements include: a) training human resources at the country level; b) producing and publishing materials on the problems encountered by these enterprises and on instruments for improving management; c) developing and testing management training methods at the regional level; and d) developing mechanisms and forms of cooperation with the EEC and the government of France, to benefit the countries of the region:

Project action during the first half of 1986 concentrated on: a) completing specialist and member training activities already under-

way, as well as follow-up and control of production plans in enterprises; b) evaluating and preparing economic and financial statements of the enterprises; c) institutionalizing and disseminating training methods at the country level; d) preparing technical reports and publishing the methods and instruments used for training and management in the enterprises; and e) transferring vehicles and equipment to national programs.

During the first quarter of the year, two cooperative seminars were held in Costa Rica to produce a comparative study of technical and economic results of rice and cattle production in associative enterprises. Also examined were factors inside and outside the enterprise that affected profitability in these production activities. Two accounting courses were taught, consolidating the recording system begun in 1985.

Two seminars were held in Honduras on preparing financial statements. Participants included specialists in charge of providing management assistance to associative enterprises in the regions of Choluteca, San Pedro Sula, Olancho and Bajo Aguán. A training course was organized in the Guaymuras associations for members of other enterprises to analyze administrative organization. A seminar was also held on enterprise planning for members of eight production groups affiliated with the Regional Agricultural Cooperative of Santa Barbara (CARVASABAL).

The project assisted COAPALMA in computerizing the credit operations of its 26 member organizations.

The project was also active in Nicaragua, where it supported training activities for cooperatives, conducted by the National Management Program. It participated in organizing and carrying out a training seminar on management for 20 members of the administrative councils of 10 cooperatives.

A seminar was held in Panama on analysis and evaluation of the system for technical and accounting records developed by the project, a system which has been adopted by the enterprises and by the Ministry of Agricultural Development. Farmer settlements and cooperatives continued to receive technical assistance in recording and analysis of accounting information and use of this information in decision-making and planning activities for the enterprise. The project promoted and supported a visit by cooperative members from Nicaragua to the farmer settlements in Panama. Cooperative members and specialists from Panama and Nicaragua attended the cooperative rice seminar in Costa Rica.

RATIONAL USE OF RENEWABLE NATURAL RESOURCES IN THE HUMID TROPICS OF THE AMAZON COUNTRIES (IICA/TROPICOS)

The general objective of this project is to cooperate with the countries in institutional organization and improvement of the technical capabilities of regional and national organizations responsible for the use, management and conservation of renewable natural resources in the humid tropical regions of the Amazonian countries. Its work at the national level is designed to support the enforcement of policies for developing tropical regions, which reflect the interest and unique ecological, social and economic characteristics of each country. Actions across national borders promote and support cooperative multinational efforts to evaluate and diagnose the potential of the American tropics. The results will provide a basis for developing techniques and practices to make rational use of the renewable natural resources in the countries, with shared benefits for participating countries.

Technical cooperation performed in the framework of this project during 1986 included:

- Support for the POLONORDESTE Project in Brazil in development projects for the states of Matto Grosso and Rondonia.
- Cooperation with institutions engaged in rural development of the State of Rondonia (CEPA-Rondonia, the State Environmental Council (CONSEMA) and the Secretariat of Agriculture of Rondonia (SEAGRI-RO)), to set guidelines for the State Agricultural Development Plan and to determine directions for state environmental policies.
- Cooperation with UNESCO, the Venezuelan Scientific Research Institute (IVIC), and the International Union of Biological Scientists (IUBS) in consolidating the conclusions of the International Workshop on Rainforest Regeneration and Management, held from November 24 to 28, 1986 in Guri, Venezuela.
- Support for restructuring the Technical and Scientific Information System on the Amazon (INFORMAN), and for coordinating the Regional Network of Forest and Agroforest Information and Documentation.

- Training 78 specialists through courses and in-service activities in areas associated with rural development planning and programming, conservation of Amazon forest genetic resources, agro-silvo-pastoral production systems and techniques adapted to development of this zone, and diagnostic studies for designing development projects in small farm areas of the Amazon region.

Finally, the project distributed over 3,000 brochures, free of charge, to institutions engaged in development of the humid tropics in Amazonian countries.

PROJECT FOR AGROENERGY COOPERATION

The multinational Project for Cooperation in Agroenergy, prepared at the request of the member countries and approved by the Inter-American Board of Agriculture in 1982, is an instrument that helps the countries minimize the negative impact that the oil crisis had in the rural sector from 1973 to 1979.

In accordance with the recommendation of the IABA, the project is taking place in coordination with the Latin American Energy Organization (OLADE). Actions planned and carried out have adhered to the framework established in the IICA/OLADE Agreement, which clearly defines the responsibility and types of action to be taken under this multinational project: a) IICA is responsible for promoting integrated energy/food systems; b) OLADE is responsible for evaluating the bioenergy potential in the countries of Latin America and the Caribbean and carrying out other activities associated with biomass sources of energy.

The project's most significant achievements in 1986 included support for countries in promoting integrated energy/food systems and in identifying projects with public and private sector institutions in the countries.

Work began in Guatemala to prepare a national project on integrated energy/food systems, establishing high-priority geographic areas, food production systems, and available energy systems. Modifications were made in a pilot project on energy and food in Los Grajos, Dominican Republic, while in Venezuela, support was given to the Simon Bolivar Barinas Experimental

Agricultural School (FUNDACEA) in designing biodigestor energy units as a milk production system. Venezuela also received support for the School of Agronomy in Maracay, which is designing an integrated energy/food systems project based on coffee and milk production. Finally, IICA worked with the Limited Agricultural Cooperative of Northern Uruguay (CALNU) to prepare a project for developing integrated energy/food systems based on sugar cane, sorghum, grain production, and a subsystem for fuelwood to replace diesel in irrigation systems.

The following activities in agroenergy took place in cooperation with other organizations:

- IICA and OLADE completed the compilation of information and documentation for a joint IICA/OLADE publication on experiences and prospects in Latin America for energy applications of forest resources.
- IICA and the Sugar Cane Sector Development Project (PEDESCA) of Peru prepared a proposal for a national agroenergy program, emphasizing sugar cane agroindustry and legal and institutional mechanisms that will ensure the proper administration of the program.
- IICA continued to support the National Agroenergy Program of the Ministry of Agriculture of Brazil, in accordance with the pertinent agreement.
- IICA participated with the Ministry of Mines and Energy of Brazil in the First National Symposium on New Sources and Renewal of Energy (SINERGE).
- IICA participated with EMBRATER in Brazil in the First Meeting on Integrated Energy Systems for Rural Producers.
- IICA cooperated with the government of Panama in a symposium on Organic and Natural Materials for Nutrition and Energy Use Systems, organized by the International Fair of Agriculture, Livestock, Fisheries and Food (FIACA).

SCREWWORM ERADICATION PROJECT

In the Central Area, IICA continued to promote the Screwworm Eradication Project, extending it in the countries of Central America and Panama. An agreement was signed by Guatemala and

the Mexican-American Commission for Screwworm Eradication to begin the first phase of the program in Central America. An agreement should be signed soon between IICA and the Commission to outline future Institute support of the program.

The Screwworm Eradication Project, funded primarily by the United States Department of Agriculture, and carried out by the Mexican-American Eradication Commission, began field operations in Guatemala. It also initiated studies on locating a sterile fly production plant in Panama. The technical and economic feasibility study prepared by Mexico provided an operating basis for the Mexican-American Commission.

IICA's future participation in this program will be decided under an agreement to be signed soon between IICA and the Commission.

ERADICATION PROJECT FOR *AMBLYOMMA VARIEGATUM* TICK AND HYDROPERICARDIUM IN THE EASTERN CARIBBEAN

One of the most important activities in the Caribbean Area was the preparation of a feasibility study on developing a project for control or eradication of the *Amblyomma variegatum* tick and hydropericardium in the eastern Caribbean. This project will receive contributions from USDA, AID, and FAO.

The tick was introduced into the Island of Guadeloupe from Africa in 1839, and since then has infested 14 islands of the Caribbean. Three of these have diagnosed the hydropericardium disease, caused by a rickettsia which is transmitted by the tick. A mortality rate of 50 percent has been reported in susceptible ruminants, and a high incidence has been found of acute dermatophytosis, a skin disease causing major economic losses.

Both diseases have been growing rapidly in recent years, in conjunction with the spread of *Amblyomma variegatum* through other islands. This spread has been attributed to the increased movement of livestock among islands, both legally and illegally, and the possibility that migratory birds could be carrying the tick.

Immediate measures must be taken to reduce or eliminate the spread of the tick, or the problem could extend to all islands of the Caribbean and to countries ringing the Caribbean.

The objectives of the feasibility study are:

- a) to present an up-to-date picture of the distribution of ticks in the Caribbean;
- b) to review the present situation concerning infrastructure and laws for animal health in the area;
- c) to give an economic assessment of the problem and the benefits that could be derived from a control or eradication program;
- d) to prepare a list of research priorities to be supported by a program;
- e) to recommend strategies for managing the problem, taking into account the necessary costs;
- f) to suggest a possible organization structure for coordinating and implementing the program in the Caribbean.

IICA will be participating in a meeting on the subject in the first quarter of 1987, and together with CARICOM will present the study to affected countries. IICA will continue providing direct support to tick eradication projects taking place in Dominica and Saint Lucia.

PREVENTION AND CONTROL OF LIVESTOCK PESTS AND DISEASES IN THE COUNTRIES OF THE CARIBBEAN

The purpose of this multinational project in the Caribbean Area is to increase livestock production consolidating animal health institutions so that they can carry out their mandate more effectively. Technical cooperation will be given for the prevention and control of livestock pests and diseases in the countries. For this purpose, an information system on animal health in the countries will be developed. Animal health projects for disease prevention, control and eradication will be prepared and carried out. The development of human resources will be encouraged, and inter-institutional training and cooperation will be promoted. The project receives quota funding, which in 1986 totalled nearly \$ 113,000.

Early in the year, all the countries of the area agreed to support the system and began to prepare and present regular reports on their particular animal health situations. The process succeeded in improving national information systems.

The project worked actively to promote a feasibility study on the epidemiological information system and, as a result, an agreement was signed by IDRC, CARICOM, IICA and North Carolina State University, with project implementation to begin in May, 1987.

A survey was conducted on blue tongue disease in the countries of the area, and figures were established on the prevalence and serotypes of the disease. International trade was also facilitated by the resolution of several disease-associated problems. An agreement was signed by OIRSA, USDA/OICD, IICA and the universities to pursue projects in Central America and the Caribbean designed to isolate the virus and study virus carriers.

The project achieved various results in the different countries. In Dominica, the *Amblyomma variegatum* tick was eradicated in the Bellevue Chopin area, and a similar focus was located in another part of the island. A project began in Saint Lucia to study the tick control situation, with OAS funding. These studies will provide a basis for preparation of national projects in this country and in Barbados. Progress was made in the installation of a diagnostic laboratory in Saint Lucia. A proposal was prepared for carrying out a feasibility study on tick control in Jamaica, and funding is being negotiated. A project is also under discussion for screwworm eradication in cooperation with the Mexico-United States Commission working to control this pest. Similar activities are being prepared in Trinidad and Tobago, Jamaica, Guyana and Suriname.

IICA has worked in cooperation with the Pan American Health Organization (PAHO) to conduct four seminars, each one attended by 20 to 30 veterinarians from the different countries of the Area. A workshop series was held in the Dominican Republic on veterinary epidemiology.

REGIONAL COUNCIL FOR AGRICULTURAL COOPERATION IN CENTRAL AMERICA, PANAMA, MEXICO AND THE DOMINICAN REPUBLIC (CORECA)

The Regional Council for Agricultural Cooperation in Central America, Panama, Mexico and the Dominican Republic began in December, 1980 and has passed through three clearly distinct phases. The Council was set up and organized during phase one. Phase two saw the approval of regulations, standards and proce-

dures for ensuring institutionalization of the Council. Phase three began to unfold with the formulation, approval and implementation of a new structure for CORECA, which was strengthened with the signing of a technical cooperation agreement between the member countries and IICA.

The Secretariat for Coordination of CORECA organized two meetings of the Technical Committee, three of the Executive Committee, and two of the Council of Ministers. These meetings reached agreement and passed resolutions of shared interest in the areas of agricultural research, natural resources, policy analysis, animal health, information systems, food security, development of border zones (TRIFINIO), promotion of regional coordination and integration, strengthening of reciprocal cooperation and restructuring of CORECA.

The Secretariat complied with a mandate of the Council for establishing a cooperation agreement between the Action Committee for Economic and Social Development in Central America (CADESCA) and IICA to carry out a food security project funded by the European Economic Community. The CORECA Secretariat will be responsible for assisting participating countries in implementing one of the subprograms in this project.

Work began on a study that will lead to a model for a clearing house of agricultural products and inputs through MULTIFERT. IICA also proceeded with a project for cooperation in agricultural research in the area, at the request of the Council. CATIE continued formulating a similar project on natural resource conservation and management.

Corrective measures were designed for facilitating implementation of the Reciprocal Technical Cooperation Program (COTER) among member countries, as only 50 percent of the program activities had taken place. Preparation began for a technical cooperation project with the participation of CEPI, to be submitted to the IDB. This project would increase the number of missions and establish a mechanism whereby horizontal cooperation could be developed.

The Council gave final approval to a new cooperation agreement between the member countries and IICA for five more years, for the purpose of consolidating the Secretariat of Coordination as a permanent mechanism for reciprocal technical cooperation, setting up an information system and identifying an ensemble of programs and projects of common interest.

THE INTER-AMERICAN SECRETARIAT FOR RURAL YOUTH (SIJR)

IICA has been active in youth activities since 1960 through the Inter-American Rural Youth Program (PIJR) in cooperation with the American International Association for Economic and Social Development (AIA). It worked with the National 4-H Foundation of America from 1968 to 1975.

In continuing this tradition of service to rural youth of the Americas, IICA established the Inter-American Secretariat for Rural Youth (SIJR) in compliance with Resolution 34 of the Fourteenth Annual Meeting of the Board of Directors. The SIJR took shape in the context of the "Conceptual FAO/IICA Framework for Orienting Rural Youth Programs in Latin America."

The central purpose of the SIJR is to encourage and support the strengthening of national institutions for rural development. The over 50 million young people in Latin America and the Caribbean are a potential force for regional development, and the SIJR therefore believes that they should receive better training and organization so as to pursue collective goals for improving their conditions. The SIJR also seeks to organize groups of young people for production projects through cooperatives or associations of young producers.

This is the framework within which the project supported a training seminar in Ecuador to guide extension agents for including youth and rural women in development.

A seminar was held on employment and production for rural youth in the countries of the Caribbean Basin and Spain, financed by the Spanish government and carried out jointly by IICA and the government of Costa Rica.

A conceptual framework and a project profile were developed for training specialists who work with rural youth in development, organization, formulation and implementation of production projects. Specialists working in this area received in-service training during three special missions.

A associative agricultural production project brought together 16 young Kuna indians from Panama, to operate a diversified farm as an alternative means of generating income, improving the quality of life and ensuring that young people remain in rural areas.

CENTRAL AREA Multinational Projects	External Resources		Resources	
	Source	Amount	IICA	Total
Support for Research and Technology Transfer Organizations in Animal Production in Area 1 (CENTRAL)		0	45 600	45 600
Cooperative IICA/IDRC Project to Introduce and Disseminate the use of AGRINTER and AGRIS Data Base Systems in the Countries of Latin America and the Caribbean	IICA/IDRC	26 843	5 290	32 133
Training and Studies on Agrarian Reform and Rural Development in the Central American Isthmus and the Dominican Republic (PRACA).	IICA/PRACA	140 000	62 154	202 154
Technical Cooperation for the Prevention, Control and Eradication of Animal Pests and Diseases in Mexico, the Dominican Republic and Haiti		0	86 100	86 100
Technical Support for the Operation of the Regional Council for Agricultural Cooperation in Central America, Panama, Mexico and the Dominican Republic (CORECA)	CORECA/Countries	208 194	90 618	298 812
Cooperative Program for the Protection and Modernization of Coffee Cultivation in Mexico, Central America, Panama and the Caribbean (PROMECAFE)	PROMECAFE/Countries	158 660	85 466	1 174 584
	PROMECAFE/ROCAP	930 458		
Strengthening Managerial Skills in Associative Agricultural Production Enterprises (FORGE)	IICA/EEC	111 600	61 994	179 003
	Gov. Nicaragua	511		
	IICA/EEC	4 898		
Technical Cooperation for the Prevention, Control and Eradication of Animal Pests and Diseases in Central America and Panama		0	93 000	93 000
Strengthening Technical and Operating Capabilities in Plant Protection Institutions of the Central Area		0	127 600	127 600
Strengthening the Incorporation of Rural Youth in Development (SIJR)		0	84 000	84 000

HEADQUARTERS Multinational Projects	External Resources		Resources	
	Source	Amount	IICA	Total
Research Network on Animal Production Systems in Latin America (RISPAL)	IICA/IDRC/RISPAL	41 620	21 787	63 407
Strengthening Managerial Skills for Guidance of the Agricultural and Rural Development Process in Institutions, Programs and Projects (PROPLAN)	PROPLAN/Kellogg	30 000	71 154	101 154
IICA/IDB Project Preparation Unit (UPP)	IICA/IDB/ATN IDB/ATN	790 838 139 473	13 667	943 978
Training and Methodology Development for Project Identification and Formulation	IICA/WB/EDI	162 500	117 287	279 787
Hemispheric Numerical Information System for Agricultural Development and Rural Well-Being	IICA/Kellogg Foundation	56 300	150 532	206 832
Documental Information Systems and Services for Latin America and the Caribbean	IICA/Contrib. CATIE Bibliog. Center	25 000 15 000	375 036	415 036
Cooperative IICA/IDRC Project to Introduce and Disseminate the Use of AGRINTER and AGRIS Data Base Systems in the Countries of Latin America and the Caribbean	IICA/IDRC	31 099	1 366	32 465
Support for Scientific Associations to Strengthen Technical Cooperation		0	125 700	125 700

CARIBBEAN AREA Multinational Projects	External Resources		Resources	
	Source	Amount	IICA	Total
Support for Planning and Management of the Agricultural and Rural Development Process in the Caribbean		0	74 800	74 800
Technical Cooperation for the Prevention, Control and Eradication of Animal Pests and Diseases in the Caribbean		0	112 700	112 700
Strengthening Rural Development IICA/AID Programs in the Caribbean Through Human Resource Development	IICA/AID	21 765	100 282	122 047
Support for Plant Protection Programs in the Caribbean Area		0	102 500	102 500

ANDEAN AREA Multinational Projects	External Resources		Resources	
	Source	Amount	IICA	Total
Cooperative Agricultural Research Program for the Andean Subregion (PROCIANDINO)	IICA/IDB/ PROCIANDINO	137 163	32 612	169 775
Cooperative IICA/IDRC Project to Introduce and Disseminate the Use of AGRINTER and AGRIS Data Base Systems in the Countries of Latin America and the Caribbean	IICA/IDRC	25 000	0	25 000
Technical Cooperation for the Prevention, Control and Eradication of Animal Pests and Diseases in Peru, Ecuador and Bolivia		0	80 700	80 700
Support for Plant Protection Program in the Andean Area		0	118 400	118 400
Technical Cooperation for the Prevention, Control and Eradication of Animal Pests and Diseases in Colombia and Venezuela		0	74 200	74 200

SOUTHERN AREA Multinational Projects	External Resources		Resources	
	Source	Amount	IICA	Total
Prevention, Control and Eradication of Pests of Economic and Quarantine Importance in Argentina, Brazil, Chile, Paraguay and Uruguay		0	100 600	100 600
Technical Cooperation for the Prevention, Control and Eradication of Animal Pests and Diseases in Argentina and Chile		0	104 400	104 400
Cooperative Agricultural Research Program for the Southern Cone (IICA/IDB/PROCISUR)	IICA/IDB/PROCISUR	891 132	245 000	1 136 132
Technical Cooperation for the Prevention, Control and Eradication of Animal Pests and Diseases in Paraguay and Uruguay		0	93 400	93 400
Rational Use of Renewable Natural Resources in the Humid Tropics of the Amazon Countries (IICA/TROPICOS)		0	204 100	204 100
Agroenergy Cooperation with the Countries		0	160 200	160 200

JUNJO

En este mes se coxe papas, ocas, ullucos y hazer chuño y sembrar las papas que llaman chaucha.

En este mes se cogen mucho pescadillo y chiche de la cierra para guardar. Y es tiempo de zegar trigo en todo el rreyno. Y de las demás comidas y frutas se ponga en piruas, cullunas.

En este mes es la fuerza de texer rropa de los pobres yndios y de la taza y de la comunidad porque no estén ociosos y alzar cosas y cubrillas.



Chapter 3

New directions

LATIN AMERICAN AGRICULTURE: THE INTERNATIONAL FRAMEWORK IN 1986

Agriculture in Latin America and the Caribbean was nearly at a standstill during 1986, in contrast to its observed behavior in the past two years. This occurred in a critical economic environment, both for the overall economies of the region and for the agricultural sector as such, bound as it was by severe restrictions in the international market and a gradual trend toward protectionism.

The international economy in 1986 continued its moderate, uneven recovery. Economic growth took place at a rate of approximately 2.5 percent, continuing its decline from the rates of expansion that accompanied the economic recovery beginning in 1983. In this context of a gradual improvement of the international economy, financial markets continued to be highly volatile, protectionism grew and considerable uncertainties persisted concerning stability and world economic development. The present economic recovery, which began in 1983 following the deep recession of 1981-1982, has lasted much longer than other recent recovery processes in the international economy, although it has been less dynamic and has not made itself equally felt in developing countries. Trade was also static at the international level. The only encouraging sign in 1986 was the beginning of the Eighth Round of GATT negotiations known as the "Uruguay Round," which should promote the liberalization of agricultural trade. In the meantime, protectionism and the gradual decline of multinational forums were prevailing trends during the period.

The economies of the region maintained an overall growth rate of approximately 3.4 percent in 1986, an improvement over the 1985 rate of 2.7 percent. This growth was insufficient to support the assertion that critical economic and social trends in Latin America and the Caribbean have been reversed. The deterioration that began in 1980 has continued to depress standards of living and general economic conditions in these countries. The expansion has been very uneven, as most growth in the region was achieved in countries south of Venezuela, especially Brazil, Peru, Chile, Colombia and Argentina. If these countries are removed from the equation, we find that the area continues to flounder in a recessionary crisis. Mexico, for example, had to cope with drastic declines in international oil prices and with high levels of external indebtedness. As a result, its economy declined by nearly four percent of the DGP. Economic performance in Central America and in some countries of the Caribbean was also unsatisfactory.

Several discouraging trends continued unabated in the economy of the region, and agricultural performance was affected in various ways. External indebtedness is a major problem, along with steadily deteriorating terms of trade which, in contrast to the experience with previous economic recoveries, have not brought up the prices for primary goods traded by the region. These two factors combined have held back, and in many cases diminished, the potential for sustained economic recovery in the region. Latin America and the Caribbean are still affected by capital flight and, for the fourth year in a row, are faced with a net transfer of internal savings toward more industrialized countries. It is unfortunate that this should occur at a time when the countries need to channel internal and external savings toward capital formation for economic recovery.

Persistent declines in the terms of trade, for example, can drastically limit or even cancel out positive net results of efforts by the Institute's Member States to adjust their economies and push exports.

This steady slump in terms of trade is due to many complex causes that will not be discussed at length here. In part, they reflect profound technological and structural changes in the international economy and in the market demand of more industrialized countries. These changes could be considered essentially irreversible and should be stressed not only because they directly

interfere with the possibility of improving the external accounts of Latin American and Caribbean economies, but also because they have a profound effect on major subsectors of agricultural production, which for a very long time had been both the engine of growth and the area of external contact for the economies of the region. A case in point is sugar production, and several other products have also been affected.

In addition to these problems in the overall economic environment, the region must deal with acute, expanding protectionist barriers in some countries. Furthermore, certain agricultural surpluses are frequently "dumped" on the market, or sold through direct and indirect export subsidies. Both tendencies are responses to a number of complex situations in international agriculture: slow production growth, low world prices, and depressed or limited demand for exports. As a result, agricultural growth fell throughout the world in 1986.

Preliminary estimates by FAO indicate that, by 1986, world agricultural production growth was only 0.8 percent, which breaks with the slightly positive trend of the past five years. This time, production has grown more in traditional food importing countries and has contracted in the major exporting countries, especially those of North America. Despite the persistence of food and agricultural problems in most countries of the developing world, major agricultural markets have registered surplus stocks of important items, varying by region, including grains and milk products, among others. These large stockpiles, combined with protectionist and restrictive agricultural policies, continue to depress prices and reduce export income for many countries that crucially need foreign exchange.

Preliminary figures, also from FAO, indicate that for 1986 agriculture in the region was in relative stagnation and may even have declined by about one percent, in contrast to the acceptable growth levels of the previous two years. Thus, agriculture has continued the gradual downward trend of the past five years. In fact, the agricultural growth rate has been falling since 1960. As a result, agricultural growth in Latin America and the Caribbean from 1980 to 1985 was less than during the 1970s, when the sector registered an annual growth rate of 3.7 percent. Per capita agricultural production figures (which vary considerably by sub-region and country) were also negative. This decline was most

acute in the countries of Central America, the Caribbean and the Andes, and by the 1970s had affected the entire region.

It is too early to say whether the poor performance in 1986 breaks the trend to recovery seen in the last two years; in any case, the average figure masks significant data showing differences by country. Certain countries of the Andean Area, especially Peru and Venezuela, experienced strong growth; by contrast, Brazil suffered severe declines directly attributable to the continuing droughts affecting the northeastern zone. This situation is also a reflection of other factors, including the lack of external demand to trigger the region's agriculture. To this should be added the fall in domestic demand, growing agricultural production costs, and reductions in subsidies and credits. All have served to discourage performance in the sector.

External agricultural trade for IICA member countries, following a period of intense growth since the beginning of the 1970s, has fallen sharply in recent years. Agricultural exports from Latin America and the Caribbean increased rapidly following 1970, but imports grew even faster.

It is also important to stress the sharp differences among countries. For example, Brazil (with products such as soybeans) has systematically, measurably increased its role in exports, while countries like Mexico and Venezuela have expanded their imports without achieving the same growth in exports. In general, the region has thus become more dependent on imports.

Recent agricultural development in IICA's member countries can be divided into two clearly distinguishable phases. The first, which peaked in the 1960s, can be identified with the growth spurt ushered in by industrialization and import substitution. Encouragement was given for products which met a high demand in urban zones, generally through heavy subsidies, and few incentives were given for export. Local currencies were often overvalued, and relative prices for certain agricultural commodities were frequently unfavorable. This was also a time of modernization and intense technological change, which was uneven and led to extreme heterogeneity in the sector.

A second phase for most farmers in the region began to take shape in this decade, largely as a result of structural changes imposed by adjustment processes in response to the economic crisis. For example, certain prices were corrected in favor of farmers, especially the adjusted exchange rates. Certain anti-

agricultural biases in economic policy were also corrected. In overall terms, agricultural producers in Latin America and the Caribbean received more incentives for exports and for developing new, nontraditional products. Nevertheless, agricultural production costs rose, and products with a large domestic market have often been sidelined, although not always explicitly. Thus, agriculture in the region is in a transitional phase and must face the difficult challenges of an opening external market while still burdened with many problems from the past.

Problems that have affected agriculture in Latin America and the Caribbean for many years continue to persist, including a historical legacy of inequality, stubborn extreme poverty, and an inability to incorporate vast sectors of the rural population. Furthermore, the rapid technological change and productivity improvement introduced in the last three decades have generated a much larger and more complex sector, with improved ability to adapt to changing situations in the national and international economy. Despite the crisis and the problems, the agricultural sector has served as a major, dynamic reserve for growth in the region. Its performance has been acceptable for many years, albeit uneven, and it will be a key factor for overcoming today's crisis.

THE MEDIUM TERM PLAN

The Institute's Medium Term Plan for 1987-1991 was approved by the Third Special Meeting of the Inter-American Board of Agriculture (IABA), held from October 27 to 29, 1986 in Mexico City. Resolution 104*, by which the Plan was adopted, received the unanimous approval of the 27 delegates present from the Institute's member countries. The Medium Term Plan had been prepared by the Institute in accordance with guidelines given in Resolution 72**, adopted by the Third Regular Meeting of the IABA, and was based on a report given by the Group of Six Experts (G-6), supported by a group of IICA specialists and consultants.

* Resolution IICA/JIA/Res.104(III-E/86).

** Resolution IICA/JIA/Res.72(III-0/85) of the Inter-American Board of Agriculture, adopted by the Third Regular Meeting, held from October 21 to 25, 1985 in Montevideo, Uruguay.

The Plan is the central instrument that will guide IICA for the next five years in responding to high-priority needs and demands for technical cooperation expressed by the countries. Through it, IICA will make real contributions to the efforts of governments to solve the central problems which hold back agricultural development. The Plan channels the Institute's ongoing actions as established in the 1980 Convention.

The Medium Term Plan was based on a diagnostic study of the political and economic context in Latin America and the Caribbean that conditions situations and trends in the agricultural sector. This context is briefly described in Chapter III of this report. It is essential to anticipate the behavior of major forces that drive economic growth in a crisis situation, changes in the demand for foodstuffs and other agricultural commodities, and production trends. This information makes it possible to identify central problems which are of concern to governments of the region and will continue to be felt in coming years.

The Plan is further based on a necessary reassessment of the role that the agricultural sector should play under present international circumstances. This sector must be the engine that will reactivate the economy, not only as the primary source of food production and employment, but also as a key factor in the growth of external markets that will generate and save on foreign exchange. This new view has been gaining momentum in most countries as an alternative approach to the crisis, and in turn it engenders new demands and challenges for institutional action.

The Medium Term Plan sets the Institute's objectives for coming years, with targets for channeling resources and action. It frames a strategy for meeting these goals and provides a comprehensive framework for allocating the resources which the Institute expects to obtain during the term of the Plan.

The Institute's objectives are to "encourage, promote and support the efforts of the Member States to achieve their agricultural development and rural well-being." In this context, the Plan now guiding IICA action establishes five-year objectives to: a) propel 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; b) intensify modernization and increase production efficiency in the agricultural sector; and c) pursue the process of

regional integration, using a scale of operation that will facilitate better use of resources and the development of complementary and commercial relations.

The general strategy of the Plan requires that efforts and resources be concentrated on five high-priority programs, and, for each program, on a small number of subjects of special importance to the member countries. In these areas IICA will develop technical capabilities for giving an effective response to the particular problems perceived.

IICA will pursue this strategy by increasing its operating capacity and making effective use of its advantages over other organizations. It will need to develop a flexible, dynamic operating structure that will facilitate the performance of actions agreed upon at the national and regional levels, and will allow it to concentrate activities and pursue technical excellence. At the same time, the framing of Institute policies must rest on a sound technical foundation and permit true decentralization. Personnel policies should be implemented that are consistent with program needs for qualified professionals and high technical performance. Finally, special emphasis will be placed on organization and development of mechanisms to provide the countries with better services for attracting and mobilizing external resources, both human and financial, as needed for their agricultural development.

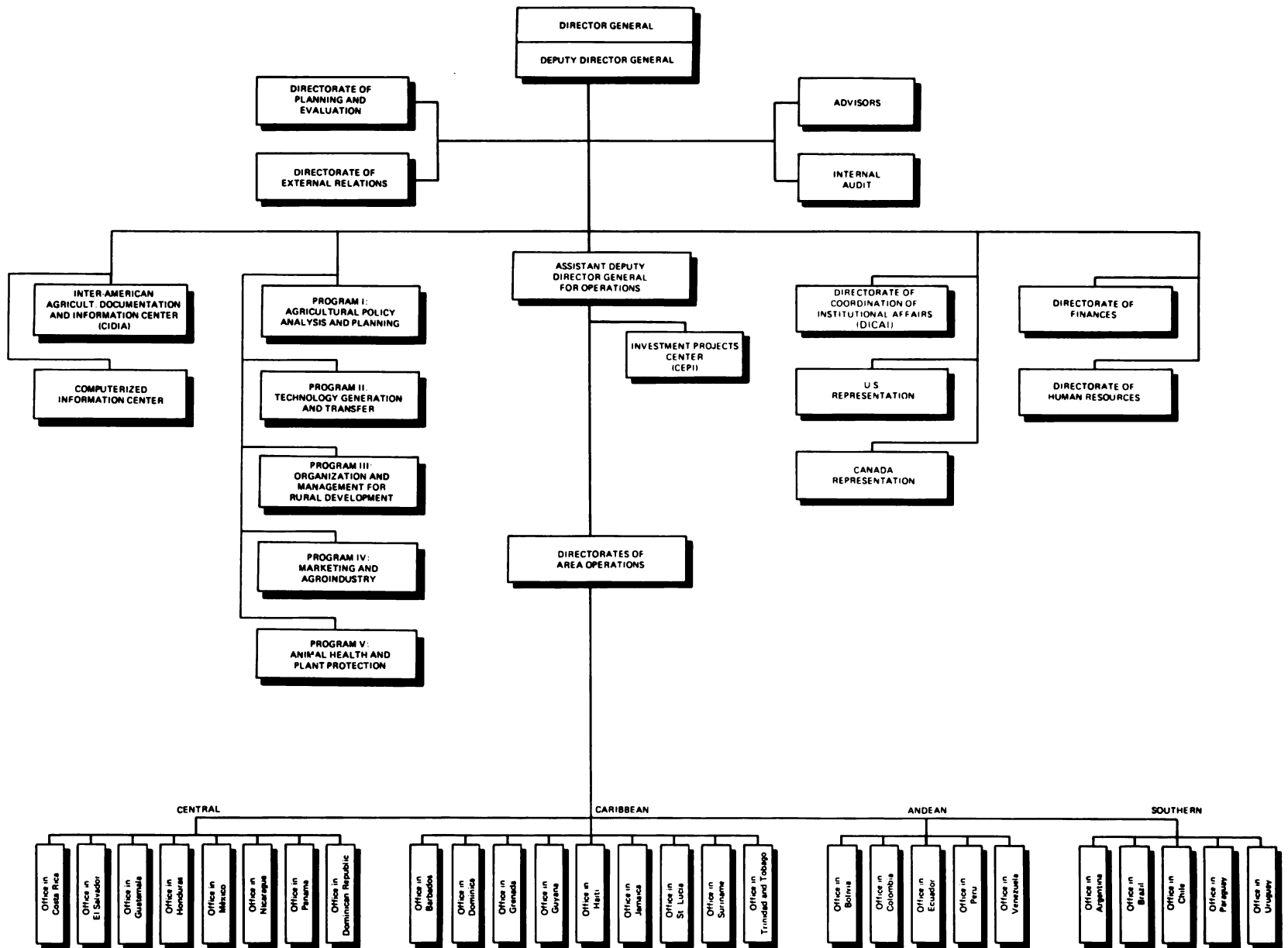
In short, the concentration of efforts and the development of technical capabilities in areas essential for agricultural development

and rural well-being in the Member States are central features of the Institute's action strategy for the next five years.

The Plan sets policies for Institute administration. In the area of human resources, it emphasizes upgrading and restructuring professional staff, improving procedures for personnel recruitment and selection, and establishing an ongoing mechanism for training. It highlights the need to improve mechanisms for performance appraisal, institutional communication, compensation and benefits.

Administrative and financial policies are discussed in the Plan, with an emphasis on decentralization of operations and effective delegation of responsibility. This includes improving the qualifications and skills of personnel providing administrative support services to the Institute, developing financial information systems, and streamlining administration of external funds so as to ensure optimal use of IICA's resources.

Policies for external relations focus on combining efforts with other institutions engaged in activities for agricultural development and rural well-being in the countries, jointly coordinating and planning activities or specific projects. The Institute will strive to enhance its image at the international and national levels, intensify relations with observer countries, and develop mechanisms for ensuring systematic, consistent visibility on the international scene. This will attract the type of support needed for expanding and improving IICA's action in benefit of its member countries. ✕



PROGRAM STRATEGIES

The programs in the 1987-1991 Medium Term Plan were selected according to the following criteria: a) that they represent problem areas of concern to the majority of the member countries; b) that the countries have clearly identified institutional systems in each subject area; c) that IICA has comparative advantages in the program areas; and d) that they lend themselves to multinational action.

The programs operate in the framework of seven basic principles:

- Concentration of effort in a small number of action areas selected according to needs in the countries and IICA's comparative advantages.
- Technical capabilities that each program will develop in its particular area.
- Innovative action to identify problems and provide solutions.
- Integration of activities using IICA's tools of action: research and studies, training, technical assistance, administrative services, technical and scientific brokerage, and dissemination of information.
- Mobilization of national technical resources in each target country or from other countries of the region to generate networks of reciprocal cooperation and exchange.
- Complementarity with other international organizations and centers to combine efforts and ensure greater benefits to the countries.
- Multinational projection, by placing high priority on preparing and implementing projects and other cooperation activities that involve various member countries and target shared problems.

Program I – Agricultural Policy Analysis and Planning

The countries of the region are finding their possibilities for agrarian development threatened by the adoption of comprehensive policies for structural adjustment in the economy, coupled with the trend toward greater protectionism by importing countries. In response, they must shape and implement effective policies that will allow agriculture to realize its potential and become one of the major sources of economic growth. They must restructure the orientation of production, encourage efficiency, and increase the ability of their agricultural products to compete

on the international market. They can do this by tapping the foreign trade potential of non-traditional products.

The countries need to upgrade their technical personnel and acquire appropriate methods and techniques for policy analysis and for guiding decision making. At the same time, they must redefine the relationship between the agricultural sector and the rest of the economy, reformulate agricultural policies and redesign methods for selecting and managing policy instruments that will translate decisions into effective results and will open new options.

The purpose of Program I, in this context, is to cooperate with the countries in analyzing and evaluating alternative models and strategies for agricultural development. The program will help improve analytical and advisory skills for the definition and implementation of agrarian policy, and it will strengthen the organization and management of institutional systems for agrarian policy planning.

The Program will concentrate on several areas to reach its goals:

- a) Analysis and exchange of experiences with alternative strategies for agricultural and rural development at the regional and subregional levels. This requires an analysis and interpretation of agricultural trends in Latin America and the Caribbean and of the outlook for the sector, so as to anticipate the effects of policy options; dissemination and exchange of theories and experiences in the different countries; discussion of agrarian development alternatives; and strengthening information networks in the field of agricultural and rural development.
- b) Support for the countries in strengthening analytical and advisory skills for formulation and implementation of agricultural sectoral plans and policies. In this area, the Institute will cooperate with requesting countries to analyze agricultural policy tools, to identify, develop and manage them, conduct applied research that will support the analysis and interpretation of problems affecting agricultural development, and shape strategies, policies and plans designed to solve these problems. For this purpose, emphasis will be placed on improving the ability of technical and professional teams and on institutional strengthening that targets the organization and management of agencies responsible for agricultural policy analysis and planning.

- c) Development of appropriate mechanisms for implementing plans and policies. The Program will support the countries in designing and implementing appropriate mechanisms that facilitate and coordinate high-priority plans, policies, programs, and projects, strengthening joint action by the public and private sectors.

Program II – Technology Generation and Transfer

Technological innovation in today's world increasingly determines the production capacity of a country and shapes its ability to compete in world markets. The countries of this region must deploy major efforts in the area of technological innovation, at the risk of losing their share of international markets. As long as their market penetration continues to be based exclusively on natural comparative advantages, growth will suffer.

Efforts to step up technological innovation have been hampered by the difficulty of coordinating technological policy with other features of agrarian policy. Furthermore, there has been a tendency to concentrate efforts on problems which have little real impact on production in the sector. The countries of the region, in dealing with these problems, must modernize institutional systems responsible for technology generation and transfer, with special attention to organizational models. They must upgrade the quality of their professional teams and make a special effort to maintain close ties between research and teaching. Research activities need to be integrated with technology transfer if the technology supply is to respond to the specific needs of producers. If services improve their coverage and better use is made of available resources, the possibility of horizontal technology transfer among the countries of Latin America and the Caribbean will improve.

The purpose of Program II, in this context, is to promote and support efforts by the member countries to improve the design of technological policies, strengthen organization and management of national technology generation and transfer systems, and facilitate international technology transfer.

The Program will pursue these ends by cooperating with the countries in the following areas:

- a) Technological policy design, providing technical support for the generation and implementation of mechanisms, instruments and

relevant measures that will allow the countries to coordinate technological policy with agricultural policy; setting clear guidelines whereby the processes of technology generation and transfer will respond to high-priority problems; and encouraging complementary action between public and private institutions, taking into account the increasing importance of the private sector for rapid transfer and dissemination of new technologies.

- b) Support for the governments in organization and management of national technology generation and transfer based on an evaluation of present structures and discussion of possibilities for new models of institutional organization. Emphasis will be placed on strengthening systems of management and administration appropriate to the specific characteristics and needs of each country.
- c) Development of human resource training programs, with an emphasis on helping the countries make effective use of real and potential resources available in the region.
- d) Support of national institutions in the formulation and implementation of investment projects using external resources to consolidate research and technology transfer systems. A key feature of program action will be the development of multinational projects for horizontal technology transfer.

Program III – Organization and Management for Rural Development

Landless workers, small-scale farmers, tenant farmers and their families encounter serious obstacles in overcoming their difficult living conditions. At the same time, the small units they farm produce most of the foodstuffs for domestic consumption and provide employment for a high proportion of the economically active rural population. The purpose of Program III is to assist the member countries in designing rural development policies and programs and in strengthening institutions responsible for carrying out the actions that emerge from these policies.

The Program will focus on:

- a) Analysis of rural development problems, to include a study of rural poverty, evaluation of strategies, policies, programs and projects for rural development in the countries, and impro-

vement of information systems on rural poverty, including corrective action under way in the countries.

- b) Strengthening institutional systems responsible for rural development, by helping them improve their performance and the quality of the services they are expected to provide.
- c) Improving the ability of institutions and farmer organizations to formulate and manage rural development programs and projects. The Program will develop required technology and provide support to strengthen managerial skills, a critical factor if such projects are to be effective.
- d) Technical support and training for business organization and management. The Program will cooperate with the countries in developing their institutional capabilities to promote farmer training and organization. It will develop methods and identify successful models and experiences for strengthening diverse organizations as mechanisms to overcome rural poverty.

Program IV – Marketing and Agroindustry

The countries of Latin America and the Caribbean recognize the importance of tapping new possibilities for international trade, particularly within the region. However, they are faced with increasingly complex marketing systems and greater needs for processing agricultural products, coupled with ongoing population growth and galloping urbanization.

The countries have many problems to solve before revitalizing trade. In particular, information systems for product and input marketing are not fully developed. Rural agroindustry is still in a rudimentary stage. The private sector needs to participate more in developing international markets, especially for diversifying traditional exports. Finally, the move toward intraregional trade is progressing too slowly.

The purpose of the Program, in the context, is to assist the countries in their efforts to increase the efficiency of marketing processes in order to expand rural agroindustry and improve penetration of international markets. It also promotes an active exchange of agricultural commodities by easing the legal and information barriers that restrict trade.

To this end, the Program will focus its efforts on:

- a) Identification of marketing problems and development of solutions, through policy analysis and preparation of projects,

training of technical staff, and support for the development of information systems.

- b) Promotion of rural agroindustry, by helping the countries develop the institutional capabilities for promoting small- and medium-scale business. Activities will include preparation of agroindustry projects and general activities such as packaging, processing and product transformation for the external market, geared toward conquering new markets and generating greater added value.
- c) Promotion of technical cooperation for intraregional trade and food security in the framework of regional cooperation mechanisms, following a strategy of reciprocal support and concerted participation in extraregional markets. The Program will help countries promote farmer organizations for export purposes, and will provide information on legal systems in importing countries; it will also strive to standardize and unify legal systems in member countries and encourage information exchange.
- d) Promoting nontraditional agricultural exports through training, meetings and other events. There is also a need to generate information on opportunities available in external markets, and to learn how to use them for export promotion and planning.

Program V – Animal Health and Plant Protection

The production, processing and marketing of foodstuffs, fibers, hides and other products that are subject to invasions of pests and disease can cut into supply and lead to major economic losses. Furthermore, the risk of exotic pests and diseases entering the countries has increased with the exchange of genetic materials and international commodity transport. This often means that the countries are unable to place their products on the international market because they cannot meet the plant and animal health standards imposed by importing countries.

Consequently, the countries have launched drives to control certain pests and diseases. However, many of them find that their institutional structures and resources are inadequate, and they are unable to incorporate or use the technological advances appearing in recent years for disease and pest prevention and control. The health protection systems are still limited, and little use has been

made of the possibility for combining efforts and resources across national borders.

The purpose of the Program is to help the countries counteract the damage caused by diseases and pests on production, international trade, the economy of the individual farmer and the country. It will assist them to strengthen national institutions responsible for plant protection and animal health and reinforce their efforts to prevent the introduction of exotic pests and diseases and control or reduce the spread of those already present.

To meet its goals, the Program will focus its efforts on the following high-priority areas:

- a) Strengthening institutional structures for animal health and plant protection, by encouraging the private sector to participate more actively in prevention and control programs; developing national potential for training human resources; helping to review, update and coordinate legislation in this field; supporting research and technology transfer; and preparing and carrying out projects designed to solve high-priority health problems.
- b) Assessment of economic losses due to major pests and diseases, and assisting the country to develop effective information systems on the processes responsible for the major economic losses in animal and plant production.
- c) Advisory services for the countries to overcome health barriers to international trade, especially concerning pesticide residues and veterinary products.
- d) Strengthening health protection and emergency systems for taking immediate action in response to outbreaks of exotic pests or diseases posing a high risk of spread, and coordinating efforts with international organizations, regional and subregional groupings.

INSTITUTIONAL ORGANIZATION

In the Countries

The organization of the General Directorate is based on: a) needs implicit in the new priorities for Institute action, especially concentration of efforts, decentralization, and pursuit of technical excellence in Institute services; b) the results of the evaluation of the 1983-1987 Medium Term Plan conducted by a

group of experts external to IICA (G-6)*; and c) the experience that the Institute has acquired and documented through follow-up and evaluation procedures.

The organization is comprised of national offices directed by an IICA representative in each country, as the institutional and administrative basis for IICA's activities. These offices play a central role in: a) maintaining relations with government authorities; b) providing administrative and logistic support for program activities; c) carrying out projects for providing services to the countries; d) offering technical assistance to the countries in response to unanticipated or emergency problems; and e) developing capabilities for project identification, management and implementation.

In the Areas

IICA has designated four geographic areas to facilitate supervision of technical cooperation activities. Each area operates under the supervision of a director of area operations who reports to the Assistant Deputy Director General for Operations.

The directors play an important role in processes of horizontal cooperation among countries of the area and in programming and carrying out multinational projects for each area. The four directorates are located at IICA headquarters in San Jose, Costa Rica.

At Headquarters

The organizational structure at headquarters is built around the Central Office in the General Directorate. This is the highest level of technical and administrative management and is made up of the offices of the Director General and the Deputy Director General, advisors to the Director General and the internal audit.

Managerial support units include the Directorate for the Coordination for Institutional Affairs, which is responsible for the Secretariat of the Inter-American Board of Agriculture and the Executive Committee. Other support units include the Directorates of External Relations, Human Resources, and Finances and Administration.

* In compliance with Resolution IICA/JIA/Res.72(III-0/85) of the Third Regular Meeting of the Inter-American Board of Agriculture, held from October 21 to 25, 1985 in Montevideo, Uruguay.

The Programming and Evaluation System operates under the Directorates of Programming and Evaluation, and is responsible for evaluating new cooperation projects and resource allocations based on the priorities of the Medium Term Plan.

Technical cooperation units are responsible for generating and providing services from the Institute to the countries. They include the national offices, program directorates and technical support units.

The directorates of the Institute's five programs are responsible for developing concepts and working methods, and establishing guidelines for the different areas of concentration of each program. They perform the following functions: a) cooperating with the countries to identify and analyze problems, set priorities and implement solutions; and b) identifying, designing and implementing multinational technical cooperation in their particular areas. The program directors, stationed at headquarters, report to the Director General.

The technical support units are responsible for generating specific specialized services to strengthen Institute action. Under this heading, the Inter-American Agricultural Documentation and Information Center (CIDIA) provides documental information services in the high-priority areas of each IICA program.

The Investment Projects Center (CEPI) cooperates with the member countries and supports Institute units in formulating projects and training personnel in its particular area. It plays an important role in developing evaluation methods for projects, with

an emphasis on the use and application of microcomputers and the analysis and adaptation of investment projects at the farm and sectoral levels.

The Editorial Service publishes technical literature for use by the Institute and the member countries. It also provides printing services to IICA's operations centers and is responsible for distributing and marketing its publications.

The Computerized Information Service provides technical support for developing the Institute's information systems. It concentrates on efficient use of computer technology and on personnel training.

The Tropical Agriculture Research and Training Center (CATIE) is an institution associated with IICA that operates independently. It is responsible for conducting research on problems affecting tropical agriculture, providing graduate and specialized education, and performing training and advisory activities. CATIE focuses on the countries of Central America, Panama and the Dominican Republic. During 1986, it strengthened its scientific and academic structure and made considerable progress in redefining its research and training plans and programs. It revitalized the graduate school, expanding the teaching faculty with the addition of highly qualified professionals. Physical facilities were also improved. This period culminated with IABA approval for a series of amendments in the CATIE charter signed between IICA and the government of Costa Rica.



JULIO

En este mes se llama aymoray quilla, que se a de rrecogerse todas las comidas y frutas pasadas y uerduras secas, cacha, yuyo y metellos en los depósitos y despensas de los yndios pobres y de las comunidades y de los caciques principales en todo el rreyno.

Y este mes es tiempo de lleuarse mucho estiércol a las dichas chacaras y sementerías y limpiar las asecyas y pozos, lagunas de las aguas para comensar a rregarse las sementerías para michica zara, maýs tenprano y para papas chaucha papa, mauay papa, y zapallos tenpranas.



Chapter 4 Institutional relations

The Convention on the Inter-American Institute for Cooperation on Agriculture stipulates that the Institute shall have the following three organs: the Inter-American Board of Agriculture (IABA), the Executive Committee, and the General Directorate. The Board is the highest governing body of the Institute and is composed of the 29 Member States. The Executive Committee is made up of twelve Member States, elected by the Board in accordance with established principles of rotation and geographic representation. Meetings of both the Board and the Executive Committee were held during 1986.

The Executive Committee

The Sixth Regular Meeting of the Executive Committee was held at Institute headquarters in San Jose, Costa Rica from July 13 to 17, 1986. Carlos Vidali, the representative from Mexico, presided over this meeting. The meeting was attended by all of the Member States of the Committee for the period, as well as thirteen other Member States of the Institute that did not sit on the Committee, three permanent observer countries, four agencies of the inter-American system, and nine international organizations.

The Meeting reached agreements on 16 items on its agenda and analyzed and elevated to the consideration of the IABA the reports presented by the Director General, with comments and recommendations. At the meeting, the Director General also made a presentation of the 1987-1991 Medium Term Plan, which had been written in compliance with a resolution passed by the Board in Montevideo, Uruguay, in October 1985. Additionally, the Committee considered modifications to the 1987 Program Budget, proposed in view of the stipulations of the 1987-1991 Medium Term Plan.

The report of the Sixth Regular Meeting of the Executive Committee was published in the four official languages of the Institute as number 33 in IICA's Official Documents Series.

Inter-American Board of Agriculture (IABA)

The Inter-American Board of Agriculture, the Institute's highest governing body, held a special meeting in Mexico City from October 27 to 29, 1986.

This meeting of the Board was attended by 27 of IICA's 29 Member States, and eight delegations were headed by Ministers of Agriculture. Other participants at the meeting included nine observer countries, seven agencies of the inter-American system, and more than 20 observers from international organizations. Eduardo Pesqueira Olea, the Secretary of Agriculture and Water Resources of Mexico, presided over the meeting, which was inaugurated in the presence of Miguel de la Madrid, President of the United Mexican States.

The primary purpose of this special meeting was to approve the Institute's Medium Term Plan, which will serve as the framework for action in the Member States from 1987 to 1991. The Medium Term Plan, which had been previously approved by the Executive Committee, was adopted by the Board as presented by the Director General.

The Board will hold its next regular meeting in Canada in 1987. This meeting will take place in conjunction with the Ninth Inter-American Conference of Ministers of Agriculture, one of the specialized conferences of the Organization of American States.

RELATIONS WITH THE UNITED STATES OF AMERICA AND CANADA

IICA maintains on-going relations with the governments of the United States of America and Canada through its offices located in Washington D.C. and Ottawa, Ontario. The duties of these two offices include establishing working ties with technical and financial assistance organizations headquartered nearby, for the purpose of strengthening IICA's activities.

The IICA office in Washington maintained contact with institutions located in that city, including the United States Agency for International Development, the World Bank, the Inter-American

Development Bank (IDB) and the National Academy of Sciences. There was also communication with the Departments of International Affairs of various universities in the country. IICA helped recruit and hire consultants from the United States to render professional services in projects and activities that it conducts with official entities in the member countries.

The office in the United States of America was active during 1986 in helping draft a feasibility study for a project to eradicate the *Amblyomma variegatum* tick and hydropericardium in the eastern Caribbean, in cooperation with specialists from the United States Department of Agriculture, the FAO, France, Great Britain and The Netherlands.

Activities in Canada included regular contact with the Canadian International Development Agency (CIDA) to support IICA programs in 1987. The Canadian International Development Research Centre (IDRC) has continued to cooperate through projects in various countries.

A five-year agreement was signed in July for international development and cooperation with the University of Ottawa. This agreement sets a framework for establishing future specific agreements on cooperation projects. A technical cooperation agreement was negotiated with McGill University in Montreal, so that the Institute can benefit from experiences with higher education in computer use.

In the field of professional services, contacts were intensified with the Canadian agency responsible for selecting and designating officials for the different federal ministries. Canada showed interest in providing Canadian experts to be assigned to IICA programs or projects and in helping to identify highly qualified professional candidates.

AGENCIES OF THE INTER-AMERICAN SYSTEM

Organization of American States (OAS)

As the depository of the Institute's Convention, the Organization of American States is of special significance to IICA.

The major purpose of IICA's office in Washington, D.C. has been to maintain close relations with the General Secretariat of the OAS; the Director General, since the beginning of his mandate, has established productive ties with the Secretary General of the OAS, Joao Clemente Baena Soares.

Permanent Council

The IICA representative in the United States of America regularly attended the regular and special sessions of the Council as an observer, when items pertinent to IICA were discussed. These included personnel matters, regional development programs, the Administrative Tribunal, the Retirement and Pension Fund, and the specialized conferences, especially the Inter-American Conference on Agriculture, which was discussed by the Council this year.

General Assembly

The Director General attended the Sixteenth Regular Session of the OAS General Assembly, held in Guatemala City, Guatemala, in November, 1986.

At this meeting, the General Assembly discussed IICA's 1985 Annual Report and at the request of the Institute, resolved to convene the Ninth Inter-American Conference of Ministers of Agriculture, to be held in September, 1987 in Ottawa, Canada, in conjunction with the Fourth Regular Meeting of the IABA. The central topic of this conference will be "Agricultural modernization, international trade and price policy in the framework of regional integration and present international conditions."

The session of the General Assembly also provided an opportunity for the Organization of American States and the Inter-American Institute for Cooperation on Agriculture to sign an agreement for technical cooperation with the governments of Guatemala, Honduras and El Salvador to implement an integrated development plan for the border area (known as the "TRIFINIO") shared by the three countries. The project, which has a cost of \$ 750,000 and spans a period of 18 months, will be financed by the European Economic Community, the OAS and IICA.

The General Secretariat

In March, 1986, the Secretary General of the OAS, Joao Clemente Baena Soares, visited IICA headquarters in San Jose, Costa Rica.

Presently, steps are being taken to update the existing agreement between the OAS and IICA to allow for better coordination and complementary actions in the countries of the region.

Inter-American Commission of Women (IACW)

In accordance with Resolution No. 63* adopted by the Third Regular Meeting of the Board, the Director General presented to the Sixth Regular Meeting of the Executive Committee, held in July, 1986, a document entitled "The Participation of Women in the Rural Development Process." The document was approved by the Committee, which entrusted the Director General to pursue immediate actions for coordination and support with international organizations to increase the participation of women in the programs outlined in IICA's 1987-1991 Medium Term Plan.

Pan American Health Organization (PAHO)

Cooperation with this agency continued to focus on animal health. In October, 1986, the Pan American Foot and Mouth Disease Center (PANAFTOSA) and IICA initiated steps to implement an epidemiological information system on swine diseases at the hemispheric level. Additionally, IICA attended the thirty-second meeting of PAHO's Directing Council, which was held in Washington, D.C. in September, 1986.

Inter-American Development Bank (IDB)

Contacts were established with IDB authorities in Washington and in several field offices during 1986. The purpose of these contacts was to maintain and encourage coordination of technical and financial cooperation at the inter-American level in benefit of agricultural development in the Member States, and to identify new areas for cooperation.

IICA participated in the following activities with the IDB:

- In March, 1986, an agreement for nonreimbursable technical cooperation was signed by the IDB and IICA on the one hand, and the governments of Bolivia, Colombia, Ecuador, Peru and Venezuela on the other. The agreement, signed in compliance with IABA Resolution No. 78**, calls for the implementation of a Cooperative Agricultural Research Pro-

* Report of the Third Regular Meeting of the IABA, Montevideo, Uruguay. Official Documents Series No. 32, San Jose, Costa Rica, 1985, pp. 47-48.

** Op. cit., pp. 88-89.

gram for the Andean Subregion (PROCIANDINO), to be administered by the Institute. IICA also continued to implement the Cooperative Agricultural Research Program for the Southern Cone (PROCISUR), financed by the IDB, and is seeking IDB support for the partial funding of the Cooperative Agricultural Research Program for the Central Subregion (PROCENTRAL). Two of these programs are described in detail in Chapter II of this report.

The Institute continued implementing the second phase of the technical cooperation agreement with the IDB in 1985 for a technical cooperation program to develop investment projects in the agricultural sector of the Member States, through the Project Preparation Unit. In accordance with this agreement, the following projects were implemented in 1986: the integrated livestock development project in Barbados; the livestock development and animal health project in Panama; and the third stage of a project in Paraguay for introducing technology and control of agricultural inputs and products.

REGIONAL AND SUBREGIONAL ORGANIZATIONS

It would be impossible to give an exhaustive account of the cooperation activities conducted with regional and subregional organizations in the Americas, but a summary is given below.

Latin American Integration Association (ALADI)

The Basic Cooperation Agreement signed by ALADI and IICA provided a framework in which joint work by the two institutions continued during 1986. The purpose of these activities was to formulate and implement an information system for promoting exports of basic products and staple foods among the countries of Latin America.

Latin American Energy Organization (OLADE)

During 1986, OLADE and IICA worked together in agroenergy, placing special emphasis on the Institute's Multinational Project for Cooperation in Agroenergy. Additionally, IICA and OLADE signed

the first extension to their general agreement for technical cooperation.

Latin American Economic System (SELA)

In November, 1986 an agreement for technical cooperation on food security was signed between the Regional Council for Agricultural Cooperation in Central America, Mexico, Panama, and the Dominican Republic (CORECA) and SELA's Action Committee to Support Economic and Social Development in Central America and Panama (CADESCA).

The objective of the agreement was to establish guidelines for cooperation between CADESCA and CORECA, through IICA, to enable CORECA to fulfill its duties as a member of the Axis II Support Group "Basic Grain Production."

IICA continued its cooperative relations with the SELA Action Committee for Regional Food Security (CASAR), through support provided for a project to develop a computerized system for recording and transmitting data from CASAR, headquartered in Argentina.

IICA maintained contact with the Permanent Secretariat of SELA during 1986 for the purpose of signing a memorandum of understanding to establish the general groundwork for future cooperation by the two organizations in benefit of the Member States.

Latin American Association of Development Finance Institutions (ALIDE)

IICA participated in the fourth Latin American Meeting of Specialists on Agricultural Development Financing and the sixth meeting of the Technical Committee on Agricultural Credit Issues, which were held in Bogota, Colombia in June, 1986.

The objective of the fourth meeting was to discuss the experiences of the countries with the use and development of different financing mechanisms and instruments for selectively channeling credit toward the agricultural sector. A second area of interest was the experiences of central banks and development banks, particularly with reference to rediscount mechanisms.

International Regional Organization of Plant Protection and Animal Health (OIRSA)

IICA and OIRSA signed an agreement for cooperation in February, 1986 for the purpose of joining efforts to help Mexico, Central America, and Panama solve agricultural health problems.

Board of the Cartagena Agreement (JUNAC)

Within the context of the general agreement for cooperation signed with JUNAC in 1984, IICA supported plant protection actions by publishing a compendium of legislation regulating the Andean plant protection system and by developing a list of quarantine pests in the Andean subregion.

During this period, IICA's office in Peru worked regularly with the JUNAC Department of Agricultural Development in several areas of common interest.

Development Fund for the La Plata Watershed (FONPLATA)

Within the context of the general agreement for technical cooperation signed by FONPLATA and IICA in 1985, the Executive Secretariat of FONPLATA requested a meeting with the Institute, and it took place in March, 1986 in Montevideo, Uruguay.

As a result of discussions at the meeting, the project to upgrade small farmers in the Caaguazú Department in Paraguay was approved by the Fund, and the FONPLATA Executive Directorate authorized IICA to provide technical support.

Central American Bank of Economic Integration (BCIE)

Contacts with the Bank continued during 1986, to develop and implement rural development projects and train national specialists from Central America.

AGENCIES OF THE UNITED NATIONS SYSTEM

Cooperative relationships were promoted during the period with agencies of the United Nations system.

International Bank for Reconstruction and Development (IBRD)

IICA pursued a strategy for attracting external and internal resources to increase its capacity for technical cooperation. Of special note in this context was the progress made in negotiating

and signing subcontracts with the International Bank for Reconstruction and Development (IBRD), the United Nations Development Programme (UNDP), and the Secretariat of Agriculture and Fisheries (SAGyP) of Argentina, in the framework of a structural adjustment loan for the agricultural sector in that country.

Experience is now being acquired in contracting directly with IBRD and SAGyP to prepare a project, through a project preparation facility, to finance agricultural machinery.

Resources were also acquired from the IDB and the Argentine National Agricultural Technology Institute (INTA) to strengthen INTA. Progress was made in negotiating with IDB/SAGyP and Entre Rios province to use resources from the IICA/IDB agreement and from the province itself to prepare an agricultural development project.

A seminar was held in Argentina, sponsored by the World Bank, IICA and the SAGyP, to discuss the agricultural sector in view of the International agricultural crisis. Its purpose was to provide material for reflection on external variables that affect structural adjustment policies for the agricultural sector.

A memorandum of agreement was signed by the World Bank Economic Development Institute (EDI) and IICA to sponsor a seminar in 1987 on price policies and the international trade of agricultural products. Documents from this seminar will serve as a basis for IICA's document to be prepared for the Ninth Inter-American Conference of Ministers of Agriculture.

United Nations Food and Agriculture Organization (FAO)

The Director General of IICA attended the Nineteenth Regional Conference of FAO for Latin America and the Caribbean, held in Saint Philip, Barbados. On this occasion, he met with the Director General of FAO to discuss lines of action leading to closer cooperation and complementary actions in areas of common interest.

The Director General of IICA visited the FAO Regional Office for Latin America and the Caribbean (FAO/RLAC) in Santiago, Chile, in November, 1986. The FAO Office in Chile has also maintained close working ties with IICA on complementary actions.

Since the ad-hoc group of IICA and FAO was established in 1985 to develop plant protection activities and strengthen co-

operation in Latin America and the Caribbean, the following complementary actions have been implemented:

- International meetings in Argentina, Brazil and Paraguay to establish actions for control of the cotton boll weevil.
- Quarantine actions on citrus bacteriosis, through regional meetings of the countries in the area plagued by this disease.
- Dovetailing activities in the Caribbean area through meetings of the Committee for the Countries of the Caribbean Basin.
- Support for regional promotion of pesticide regulations.
- Support at the hemispheric level for the publication of proceedings and documents from meetings on citrus bacteriosis, cotton boll weevil, and quarantine treatments.

International Fund for Agricultural Development (IFAD)

The President of IFAD visited IICA headquarters in 1986, and negotiations have been under way since then for signing an agreement for cooperation with IFAD to establish the terms for carrying out a technical cooperation program. IICA's role in the program will be to identify, prepare and evaluate agricultural projects and to administer and evaluate agricultural loans financed with IFAD resources.

Economic Commission for Latin America and the Caribbean (ECLAC)

The Institute attended the twenty-first session of ECLAC, held in April in Mexico City. ECLAC's 1988-1989 plan of action, which was approved at this meeting, contains areas of interest to IICA that could lead to future cooperation.

OTHER INSTITUTIONS

This general heading covers IICA's cooperative relations with other organizations active in major programs for agricultural development and rural well-being in the Institute's Member States.

International Center for Tropical Agriculture (CIAT)

A letter of understanding was signed by IICA and CIAT under which Associate Personnel will be hired to work in the Caribbean.

IICA attended an international seminar on priorities and mechanisms for cooperation on agricultural research in Latin America and the Caribbean. It was sponsored by CIAT and the Colombian Agricultural Institute and took place in August, 1986 in Cali, Colombia.

At this seminar, IICA presented a paper on financing for agricultural research in Latin America and the Caribbean. It also assisted with a workshop on agricultural research management problems.

International Potato Center (CIP)

Under the terms of the Letter of Understanding signed with the CIP, IICA continues to support the associate researcher working directly with the Venezuelan National Agricultural Research Fund (FONAIAP) in potato seed production.

International Center for Corn and Wheat Improvement (CIMMYT)

Several CIMMYT specialists continued to support the Cooperative Program for Agricultural Research that IICA is implementing in the countries of the Southern Cone with IDB funding. It was agreed that during 1987, CIMMYT would transfer its Regional Economic Program for Latin America and the Caribbean to IICA headquarters.

International Service for National Agricultural Research (ISNAR)

Contact continued with ISNAR in 1986, to identify areas for joint activities and cooperation. ISNAR specialists took part in discussions for the mid-point evaluation of PROCISUR. The two institutions supported IFARD activities in Latin America and the Caribbean, especially the development of a project to strengthen administrative and managerial capabilities in national research and technology transfer systems. It was also agreed that IICA specialists would take part in certain ISNAR activities in the region, such as reviewing the research system of the Ministry of Agriculture of Costa Rica during the first quarter of 1987.

GOVERNMENTS AND INSTITUTIONS OF OBSERVER AND DONOR COUNTRIES

Spain

Spain continued to support IICA by financing young specialists to work in IICA projects. These specialists were assigned to CEPI, CIDIA, Argentina, Brazil, Colombia, Costa Rica, the Dominican Republic, Haiti, Honduras, Paraguay, Peru and Uruguay.

In October, 1986, a request was made to the Secretariat of State for International Cooperation to continue the support provided by the specialists in the field in 1987, and to increase their number in response to needs expressed by the Member States and by the Institute's national offices.

A mission from the Institute for Ibero-American Cooperation of the Secretariat of State for International Cooperation visited IICA headquarters in November. During this visit, discussions were held on joint efforts that have been under way by IICA and the government of Spain, the possibilities for cooperation, and working methods in light of the 1987-1991 Medium Term Plan.

Negotiations were initiated with the CODESPA Foundation for funding an agricultural conversion project in the Tempisque zone in Costa Rica.

France

France continued its collaboration with the Regional Cooperative Program for the Protection and Modernization of Coffee Cultivation (PROMECAFE), under the terms of the agreement for cooperation between IICA and the Coffee and Cacao Research Institute (IICC) of the Center for International Cooperation in Agricultural Research for Development.

Contributions in the form of human resources, financial support, and training were continued by France for the Program to Strengthen Managerial Skills in Associative Agricultural Production Enterprises (FORGE), a project of the European Economic Community. Moreover, an agreement with French government was made to support the Marketing and Agroindustry Program in 1987.

The Netherlands

Negotiations began in the Netherlands between Radio Neederlands, the Ministry of International Cooperation and IICA, to establish an audiovisual production center and provide training courses for communicators at Institute headquarters in Costa Rica.

European Economic Community (EEC)

Addendum no. 1 to the financial agreement between the EEC and IICA was signed for the purpose of extending the FORGE Project, which concluded in June, 1986.

The Director General visited the Representative of the European Economic Community for Latin America and the Caribbean in Caracas, Venezuela, in June, 1986.

LEGAL INSTRUMENTS

Basic agreements provide the framework within which actions are taken to conduct relationships of cooperation as described in this chapter. The purpose of these agreements is to formalize relations with the Member States. General agreements are signed with national and international institutions to establish a framework for future activities. Operating agreements, contracts, and letters of understanding are signed for carrying these relations to the operational level. In general, this type of cooperation takes the form of funding for technical cooperation projects that strengthen the Institute's regular activities in the interest of the Member States. The table below summarizes legal instruments registered during 1986.

**AGREEMENTS, CONTRACTS AND LETTERS OF UNDERSTANDING
FILED BY THE LEGAL ADVISORY OFFICE, HEADQUARTERS, 1986.**

BENEFICIARY MEMBER STATES	No.
Argentina	11
Barbados	2
Bolivia	2
Brazil	33
Canada	1
Colombia	8
Costa Rica	7
Dominican Republic	5
Ecuador	3
Guyana	2
Haiti	5
Honduras	1
Jamaica	1
Nicaragua	1
Paraguay	6
Peru	8
Saint Lucia	1
Trinidad and Tobago	1
United States of America	8
Inter-American System:	
General Secretariat of the Organization of American States (OAS)	2
Inter-American Development Bank (IDB)	1
Regional International Organization for Animal Health and Plant Protection (OIRSA)	1
Latin American Energy Organization (OLADE)	1
Caribbean Development Bank	1

**AGREEMENTS, CONTRACTS AND LETTERS OF UNDERSTANDING
FILED BY THE LEGAL ADVISORY OFFICE, HEADQUARTERS, 1986.**

BENEFICIARY MEMBER STATES	No.
Multinational:	
PRACA (Central America, Panama and the Dominican Republic)	2
CORECA (Central America, Panama, Mexico and the Dominican Republic)	1
PROPLAN	1
Systems for Animal Production Networks in Latin America IICA/IDRC/CATIE/INIPA	1
Scientific Associations:	
Inter-American Association of Agricultural Librarians and Documentalists (AIBDA)	1
Special Scientific, Educational or Social Organizations:	
Ibero American Rural Youth Advisory Council (CAIJR)	1
International Centers:	
International Center for Tropical Agriculture (CIAT)	1
Observer Countries and Donors:	
European Economic Community (EEC)	1
Spain: Mundi-Prensa Libros S.A.	1
United Nations:	
World Bank (EDI)	1
TOTAL	123



AGOSTO

Este mes an de arrar y sembrar maýs y de tenprana de trigo y se a de sembrar el maýs tenprana que llaman michica zara; mauay papa, chaucha papa. Este maýs se come tenprano, que el maýs en este rreyno se a de sembrar y comensar desde el mes de julio de Santiago Mayor, apóstol, entra el primer maýs y se a de acauar hasta la Natiuidad de sembrarse.

Y ay mucho pasto para ganados y se a de tomar qüenta de los ganados en todo el rreyno.



Chapter 5

Human resources and finances

Human resources

By the end of 1986, the Institute had 882 staff members, or 138 fewer than in 1985.

Nineteen eighty-six was a year of transition. The guidelines set down in the Medium Term Plan, coupled with the conclusion of several agreements for external financing during the year, resulted in a reduction of professional personnel and, consequently, of general services staff. Personnel lists as of December 31, 1986 (Tables 1, 2 and 3) show that the total staff numbered 882 people, of whom 538 were in the general services category and 344 were professionals (219 international and 125 local). This meant a 13 percent reduction of total Institute personnel and a 17 percent reduction of international professional personnel.

The Medium Term Plan approved by the IABA puts forth major changes in the objectives and strategies of the Institute. For the area of human resources, it sets specific policy guidelines for renewal and upgrading of the Institute's professional team. It also calls for a higher proportion of temporary specialists, publication of employment opportunities, establishment of ongoing training mechanisms, review of instruments and procedures for performance appraisal, improved systems for institutional communications, and maintenance of a system of compensation suited to the Institute's needs and possibilities.

The Institute's governing bodies had repeatedly expressed concern about the high number of trust positions and the nature of these appointments. Accordingly, the Director General presented the Committee and the Board a report on the situation of positions of trust and proposed amendments to the Rules of Procedure of the General Directorate and the Staff Rules.

The study carried out in 1986 revealed certain confusion about the legal status of the trust positions and found that the number of these appointments could be reduced.

The General Directorate has maintained constant communication with the Institute's Staff Association. The President of the Association attended the Sixth Regular Meeting of the Executive Committee and the Third Special Meeting of the Inter-American Board of Agriculture, held in Mexico, at the invitation of the General Directorate.

Table 1. IICA Human Resources by category and source of funding. December 31, 1986.

	Quota	%	Extra-quota	%	Total	%
International Professional Personnel	165	30.16	54	16.12	219	24.83
Local Professional Personnel	53	9.69	72	21.49	125	14.17
General Services Personnel	329	60.15	209	62.39	538	61.00
Subtotals	547	100.00	335	100.00	882	100.00

Table 2. Distribution of personnel by nationality and category. December 31, 1985 and December 31, 1986.

NATIONALITY	1985			1986		
	INTER- NATIONAL PERSONNEL	LOCAL PERSONNEL	TOTAL	INTER- NATIONAL PERSONNEL	LOCAL PERSONNEL	TOTAL
Argentina	15	9	24	13	13	26
Barbados	1	6	7	1	6	7
Bolivia	10	15	25	9	17	26
Brazil	10	181	191	7	117	124
Canada	3	1	4	4	1	5
Chile	25	11	36	22	12	34
Colombia	27	45	72	25	39	64
Costa Rica	6	245	251	4	244	248
Dominica	0	4	4	0	3	3
Dominican Rep.	3	18	21	3	13	16
Ecuador	8	17	25	7	15	22
El Salvador	4	9	13	4	8	12
Grenada	1	7	8	1	7	8
Guatemala	9	14	23	6	13	19
Guyana	1	12	13	1	9	10
Haiti	1	20	21	1	16	17
Honduras	3	19	22	2	15	17
Jamaica	3	9	12	3	9	12
Mexico	11	9	20	10	8	18
Nicaragua	5	11	16	5	10	15
Panama	1	8	9	1	7	8
Paraguay	2	11	13	2	9	11
Peru	33	16	49	34	17	51
Saint Lucia	0	6	6	0	5	5
Suriname	0	3	3	0	3	3
Trinidad and Tobago	2	5	7	2	5	7
U.S.A.	22	4	26	16	1	17
Uruguay	21	18	39	16	18	34
Venezuela	11	19	30	7	18	25
SUBTOTAL	238	752	990	206	658	864
Other countries	26	4	30	13	5	18
TOTAL	264	756	1 020	219	663	882

Table 3. Geographic distribution of IICA personnel by category and source of funding, December 31, 1986.

	LOCAL PROF. PERSONNEL		GEN. SERV. PERSONNEL		INTERNATIONAL PROF. PERSONNEL		TOTAL
	Quota	Extra-Quota	Quota	Extra-Quota	Quota	Extra-Quota	
Area 1 – Central							
Costa Rica	2	3	9	3	6	1	24
Dominican Rep.	2	2	6	3	4	0	17
El Salvador	1	0	6	1	4	1	13
Guatemala	0	3	8	4	6	3	24
Honduras	2	1	8	4	6	1	22
Mexico	0	0	7	1	6	0	14
Nicaragua	1	0	9	0	3	0	13
Panama	1	0	5	1	6	0	13
Subtotal	9	9	58	17	41	6	140
Area 2 – Caribbean							
Barbados	0	0	6	0	4	0	10
Dominica	1	0	2	0	0	0	3
Grenada	2	0	4	0	0	0	6
Guyana	0	0	9	0	2	0	11
Haiti	1	4	2	9	2	4	22
Jamaica	1	0	6	2	4	0	13
Trinidad and Tobago	0	0	5	0	3	0	8
Suriname	0	0	3	0	2	0	5
Saint Lucia	1	0	5	0	2	0	8
Subtotal	6	4	42	11	19	4	86

Table 3. Geographic distribution of IICA personnel by category and source of funding, December 31, 1986.

	LOCAL PROF. PERSONNEL		GEN. SERV. PERSONNEL		INTERNATIONAL PROF. PERSONNEL		TOTAL
	Quota	Extra-Quota	Quota	Extra-Quota	Quota	Extra-Quota	
Area 3 – Andean							
Bolivia	6	0	8	0	3	0	17
Colombia	0	8	17	15	3	1	44
Ecuador	1	2	4	8	6	2	23
Peru	1	2	11	1	6	0	21
Venezuela	0	4	5	9	6	0	24
Subtotal	8	16	45	33	24	3	129
Area 4 – Southern							
Argentina	1	1	7	5	7	0	21
Brazil	1	36	7	77	10	35	166
Chile	1	1	7	1	6	0	16
Paraguay	0	1	6	2	5	0	14
Uruguay	1	1	7	10	6	2	27
Subtotal	4	40	34	95	34	37	244
Headquarters	25	3	147	52	43	2	272
CATIE/Turrialba	0	0	0	0	1	2	3
United States	1	0	2	1	2	0	6
Canada	0	0	1	0	1	0	2
Subtotal	26	3	150	53	47	4	283
TOTAL	53	72	329	209	165	54	882

Financial resources

IICA's operations are financed by a number of sources, which are classified as either Fiduciary or Regular Funds.

Regular Funds comprise revenue from quotas assessed the Member States, overhead charged for the administration of fiduciary funds, and miscellaneous income. Fiduciary funds comprise resources entrusted to IICA by national entities and international agencies for the purpose of conducting specific activities with established objectives. Additionally, the balance of the Simon Bolivar Fund will be absorbed by the Special Simon Bolivar Agricultural Fund in 1987.

IICA obtained more resources for regular fund activity in 1986 than in any previous year. These resources, which total \$ 21,997,998, comprise quota receipts of \$ 20,785,079, overhead recovery of \$ 1,187,697, and miscellaneous income of \$ 25,212.

The quota receipts represent 103% of the total assessed for 1986. This percentage was attained through prompt settlement of the current year's quota assessments and payment of outstanding balances from previous years, affirming the Member States' enthusiastic support for the Institute.

Regular Fund expenditures in the year totaled \$ 21,105,106, with expenses of \$ 1,187,697 charged against overhead recovery and quota expenditures of \$ 19,917,409. This represents 98% of the approved budget of \$ 20,289,100.

Receipts of the Fiduciary Funds totaled \$ 12,861,839 for the year, while expenditures amounted to \$ 12,192,971 or 95% of receipts.

The accompanying tables illustrate: 1) the growth of resources by source since 1982 and 2) an analysis of the weight of expenditure by program in 1986.

Table 1. Total Resources Used, by Source (1982-1986 in US\$).

	1982	1983	1984	1985	1986
- Quotas	14,633,099	17,173,062	17,497,441	19,234,497	19,917,409
- Overhead Recovery	790,110	1,311,827	1,272,063	1,396,859	1,187,697
- S.B.F.	1,802,004	1,093,126	34,140	22,856	79,726
- Extra-Quotas	25,323,290	25,866,464	15,820,423	15,143,686	12,192,971
Total	42,548,403	45,444,479	34,624,067	35,797,898	33,377,803

Table 2. Real expenditures of Quota Budget by level of programming (in US\$).

	TOTAL EXPENDITURES	
	AMOUNT US\$	%
CHAPTER I – DIRECT TECHNICAL COOPERATION SERVICES		
A. PROGRAMS		
1. Program I	490,427	2.5
2. Program II	1,960,949	9.8
3. Program III	723,666	3.6
4. Program IV	896,127	4.5
5. Program V	787,325	4.0
6. Program VI	1,268,397	6.4
7. Program VII	976,566	4.9
8. Program VIII	1,243,885	6.2
9. Program IX	1,479,436	7.4
10. Program X	519,408	2.6
B. CENTERS		
11. CATIE	1,004,400	5.0
12. CIDIA	577,119	2.9
13. CEPI	264,270	1.3
C. TECHNICAL SUPPORT SERVICES		
14. Automated Information Service	182,470	0.9
15. IICA Editorial Service	165,163	0.9
D. UNANTICIPATED SHORT-TERM TECHNICAL COOPERATION AND PRE-INVESTMENT COSTS		
	149,148	0.8
CHAPTER II – GENERAL DIRECTORATE COSTS	6,469,208	32.5
CHAPTER III – GENERAL COSTS AND PROVISIONS	759,445	3.8
TOTAL	19,917,409	100

TRAVAXA CHACRAMĀTAPISCO

carcoy pacha tiempo de oxear de la sementera en el tiempo
utubre - oma caymi qui lla -

pasian - acuehu - pachaca
o ja dor



o tubre - o ma caymi

chubre

OTVBRE

Este mes se a de oxear las sementeras del maýs y trigo de rregadio; se a de senbrar y oxealle de los páxaros y perdizes y de noche de la zorrilla.

En este dicho mes se a de cortar leña y amontonar y guardarse para el enbierno, acimismo la paxa se guarde.

En este mes comen carne gorda y comen buen maýs y beunen buena chicha de sora y que no ueuan de muco; los que guardan hazen esto y comen mejor en tiempo de hambre.

APPENDIX I

The first section of Appendix 1 lists all the books and other publications produced by the Editorial Service during 1986. The Editorial Service was also responsible for all aspects of editing, production and distribution of the journal TURRIALBA, as well as producing the AIBDA, PROMECAFE and RISPAL journals. These serial publications produced by the Editorial Service are the result of research experiences, projects, programs, and technical or scientific events sponsored by the Institute or agencies specializing in agricultural development in the Member States.

The second section lists selected titles published in the member countries. It must be emphasized that this is only a partial list, chosen to give an idea of the wide range of documents produced. The selection of bibliographic material for this listing was made on the basis of number of pages, relevance to an official series of books or documents, and topics related to IICA programs, for completed works only. In addition to the items on the list, IICA staff members throughout the Americas prepared numerous working documents for symposia and seminars, project proposals, brochures and leaflets for extension work, analytical reports, and feasibility studies.

SECTION 1: PUBLICATIONS OF THE IICA EDITORIAL SERVICE

1. ANAYA, H.; CHRISTIANSEN, P. 1986. Aprovechamiento forestal. IICA. Educational Texts and Materials Series no. 76. 246 p. ISBN 929039-112-X.
2. ANTONI, M.G.; LEAL, F. 1986. Manual de prácticas de fruticultura. IICA. Educational Texts and Materials Series no. 63. 266 p. ISBN 929039-074-3.
3. DIAZ BORDENAVE, J.; MARTINS, A. 1986. Estrategias de enseñanza/aprendizaje. IICA. Educational Texts and Materials Series no. 50. 380 p. ISBN 929039-028-X.
4. FERNANDEZ, G.; JOHNSTON, M. 1986. Fisiología vegetal experimental. IICA. Educational Texts and Materials Series no. 58. 410 p. ISBN 929039-066-2.
5. GHOSH, B.N. 1986. Maquinaria para el procesamiento de cosechas. IICA. Educational Texts and Materials Series no. 77. 186 p. ISBN 929039-117-0.
6. HARWOOD, R. 1986. Desarrollo de la pequeña finca. IICA. Educational Texts and Materials Series no. 78. 174 p. ISBN 929039-115-4.
7. IICA (C.R.); LATIN AMERICAN SCHOOL OF SOCIAL SCIENCES. 1986. Centroamérica: la crisis en cifras. San Jose. 259 p. ISBN 929039-110-3.
8. _____; UNITED STATES DEPARTMENT OF AGRICULTURE. 1986. Manual de mercadeo de productos agrícolas de la Cuenca del Caribe. 2 ed. rev. IICA. Miscellaneous Publication no. 666. 434 p. ISBN 929039-101-4.
9. _____; CEPI; WORLD BANK ECONOMIC DEVELOPMENT INSTITUTE. 1986. El sector agropecuario de América Latina y el Caribe: la crisis financiera internacional; IICA-CEPI-WB-EDI symposium. 147 p. ISBN 929039-116-2.
10. _____; EDITORIAL SERVICE. 1986. Investigación sobre necesidades bibliográficas de la educación agropecuaria superior latinoamericana. San Jose. 25 p. ISBN 929039-109-X.
11. MORA OSEJO, L.E.; IICA (C.R.). 1986. Botánica. IICA. Educational Texts and Materials Series no. 70 (Educational Slides). 26 p. ISBN 929039-095-6.
12. PIÑEIRO, M.E.; LLOVET, I. (eds.). 1986. Transición tecnológica y diferenciación social. IICA. Research and Development Series no. 14. 350 p. ISBN 929039-117-0.
13. SOIL SCIENCE SOCIETY OF AMERICA; IICA (C.R.). 1986. Clasificación de suelos. IICA. Educational Texts and Materials Series no. 69 (Educational Slides). 26 p. ISBN 929039-094-8.
14. _____; IICA (C.R.). 1986. Intercambio de cationes. IICA. Educational Texts and Materials Series no. 72 (Educational Slides). 26 p. ISBN 929039-097-2.
15. _____; IICA (C.R.). 1986. Microbiología y bioquímica del suelo. IICA. Educational Texts and Materials Series no. 68 (Educational Slides). 26 p. ISBN 929039-093-X.
16. SORIA, J. 1986. Informe de la misión asesora del Ministerio de Agricultura y Ganadería del Ecuador sobre las actividades del Programa Nacional del Cacao. San José. 27 p.
17. UNIVERSIDAD NACIONAL AGRARIA DEL PERU (La Molina); IICA (C.R.). 1986. Fitopatología. IICA. Educational Texts and Materials Series no. 71 (Educational Slides). 26 p. ISBN 929039-096-4.

Official Documents

1. IICA (C.R.). 1986. Annual report, 1985. San Jose. 259 p. Also in Spanish.
2. _____; DIRECTORATE OF PROGRAMMING AND EVALUATION. 1986. Plan of operation. San Jose. 228 p. In Spanish.
3. _____; EDITORIAL SERVICE. 1986. Catálogo de publicaciones. San Jose. 24 p.
4. _____; EDITORIAL SERVICE. 1986. Investigación sobre necesidades bibliográficas de la educación agropecuaria superior latinoamericana. Informe final. San Jose. 130 p.
5. _____; 1986. Financial Rules. San Jose. 53 p. Also in French, Portuguese and Spanish.
6. _____; GENERAL DIRECTORATE. 1986. Medium term plan, 1987-1991. IICA. Official Documents no. 35. 102 p. Also in French, Portuguese and Spanish.
7. _____; 1986. IICA Staff Rules. San Jose. 79 p. Also in French, Portuguese and Spanish.
8. _____; INTER-AMERICAN BOARD OF AGRICULTURE. 1986. Third special meeting, Mexico City, 27-29 October, 1986. San Jose. 25 p. Also in Spanish.
9. _____; 1986. Report of the sixth regular meeting of the Executive Committee, San Jose, 13-17 July 1986. IICA. Official Documents no. 33. 110 p. Also in French, Portuguese and Spanish.

10. _____ . 1986. Report of the Third special meeting of the Inter-American Board of Agriculture, Mexico, D.F., 27-29 October, 1986. IICA. Official Documents no. 34. 123 p. Also in French, Portuguese and Spanish.
11. _____ . 1986. Standards for IICA personnel classification. San Jose. 45 p. Also in French, Portuguese and Spanish.
12. PIÑEIRO, M.E. 1986. Guidelines for IICA action. San Jose. 22 p. Also in Spanish.
13. _____ . 1986. Presentation by Dr. Martín E. Piñeiro; sixth regular meeting of IICA's Executive Committee, San Jose, 15 July, 1986. San Jose. 24 p. Also in Spanish.
14. _____ . 1986. Agricultural production in Latin America and the Caribbean: International organizations and regional programs. San Jose. 12 p. Also in Spanish.
15. REGIONAL COUNCIL FOR AGRICULTURAL COOPERATION IN CENTRAL AMERICA, MEXICO, PANAMA AND THE DOMINICAN REPUBLIC. 1986. Marco global para la actuación del CORECA. San Jose. 16 p
7. ARGUELLES PALACIO, L.A., ed. 1986. Publicaciones técnicas de la Oficina del IICA en Perú, 1953-1985. IICA. Miscellaneous Publication no. A3/PE-86-006. 104 p.
8. AZAEL, A. 1986. Manuel d'analyse de semences. IICA. Miscellaneous Publication no. 659. 239 p.
9. BARBADOS. MINISTRY OF AGRICULTURE, FOOD AND FISHERIES. STATISTICAL DEPARTMENT; IICA (BAR.). 1986. Food trade imports, exports and re-exports with CARICOM countries for 1984. Bridgetown. 64 p.
10. BELIZAIRE, D. 1986. Drainage des terres agricoles. IICA. Miscellaneous Publication no. 606. 81 p.
11. BENITES, E. 1986. Análisis de la comercialización de los principales productos agrícolas: papas, ocas, habas, tarwi, quinua y análisis de su mercado en la provincia metropolitana de Cusco. Lima, Universidad Nacional de San Antonio del Cusco. 77 p.
12. BENOIT, G. 1986. Empresas campesinas en Honduras: el modelo y la realidad. Tegucigalpa, IICA Office in Honduras. 191 p.
13. BERNADOTTE, G. 1986. Consideration de base pour dimensionner les structures hydrauliques. IICA. Miscellaneous Publication no. 598. 2 v.
14. BLANCO Z., M.; MONTOYA H., R.; DELGADO A., M. 1986. Reconocimiento y diagnóstico de problemas fitosanitarios en cultivos andinos del valle de Vilcanota, Cusco. IICA. Miscellaneous Publication no. 631. 31 p.
15. CABALLERO, H. 1986. Sistemas de producción en el trópico húmedo ecuatoriano e investigaciones en pasturas. Quito, IICA Office in Ecuador. n.p.
16. CACERES-RAMOS, H. 1986. Agricultural bibliography of Trinidad and Tobago. IICA. Agricultural Documentation and Information no. 145. 298 p.
17. CARRASCO P., G.; TORO B., G. 1986. La situación del cultivo de fréjol (*Phaseolus vulgaris*) en la costa ecuatoriana. Informe de consultoría. IICA. Papers, Conclusions and Recommendations from Technical Events no. A3/EC-86-001. 44 p.
18. CAUSILLAS, T. 1986. Análisis de resultados y toma de decisiones en empresas campesinas. Tegucigalpa, IICA Office in Honduras. 113 p.
19. COSTA RICA. INSTITUTO NACIONAL DE FOMENTO COOPERATIVO; IICA (C.R.). FORGE. 1986. Memoria del primer encuentro intercooperativo: arroz 1985. San Jose. 221 p.
20. _____ ; IICA (C.R.). FORGE. 1986. Memoria del primer encuentro intercooperativo nacional sobre la actividad ganadera y transferencia de tecnología. San Jose. 178 p.

SECTION 2: PUBLICATIONS PRODUCED IN THE COUNTRIES

1. AGREENDA T., O. 1986. Posibilidades de la utilización de leguminosas forrajeras, para mejorar la productividad agrícola y ganadera en la selva peruana. IICA. Miscellaneous Publication no. 670. 104 p.
2. ALLMAND, M.; SANLLORENTI, A.M.; FERNANDEZ, A. 1986. Manual para la formulación de solicitudes de búsqueda al sistema AGRI. Buenos Aires, IICA Office in Argentina. n.p.
3. ALVARADO DOWNING, G. 1986. Posibles soluciones a problemas de mercadeo agrícola de San Pedro Sula. Tegucigalpa, IICA Office in Honduras. v.p.
4. ALVEAR, A. 1986. Directorio de publicaciones periódicas colombianas relacionadas con el sector agropecuario. IICA. Agricultural Documentation and Information no. 143. 63 p.
5. ANDRADE, M., E.; IBARRA, E.; VEJARANO, G. 1986. Evaluación de la aplicación de la metodología de grupos de amistad y trabajo desarrollado por ANACAFE en Guatemala. San Jose, IICA Office in Costa Rica. PROMECAFE. 27 p.
6. ARGENTINA. SISTEMA NACIONAL DE INFORMACION EN CIENCIAS AGROPECUARIAS; IICA (ARG.). 1986. Bibliografía sobre Sanidad Vegetal. Buenos Aires, IICA Office in Argentina. v.p.

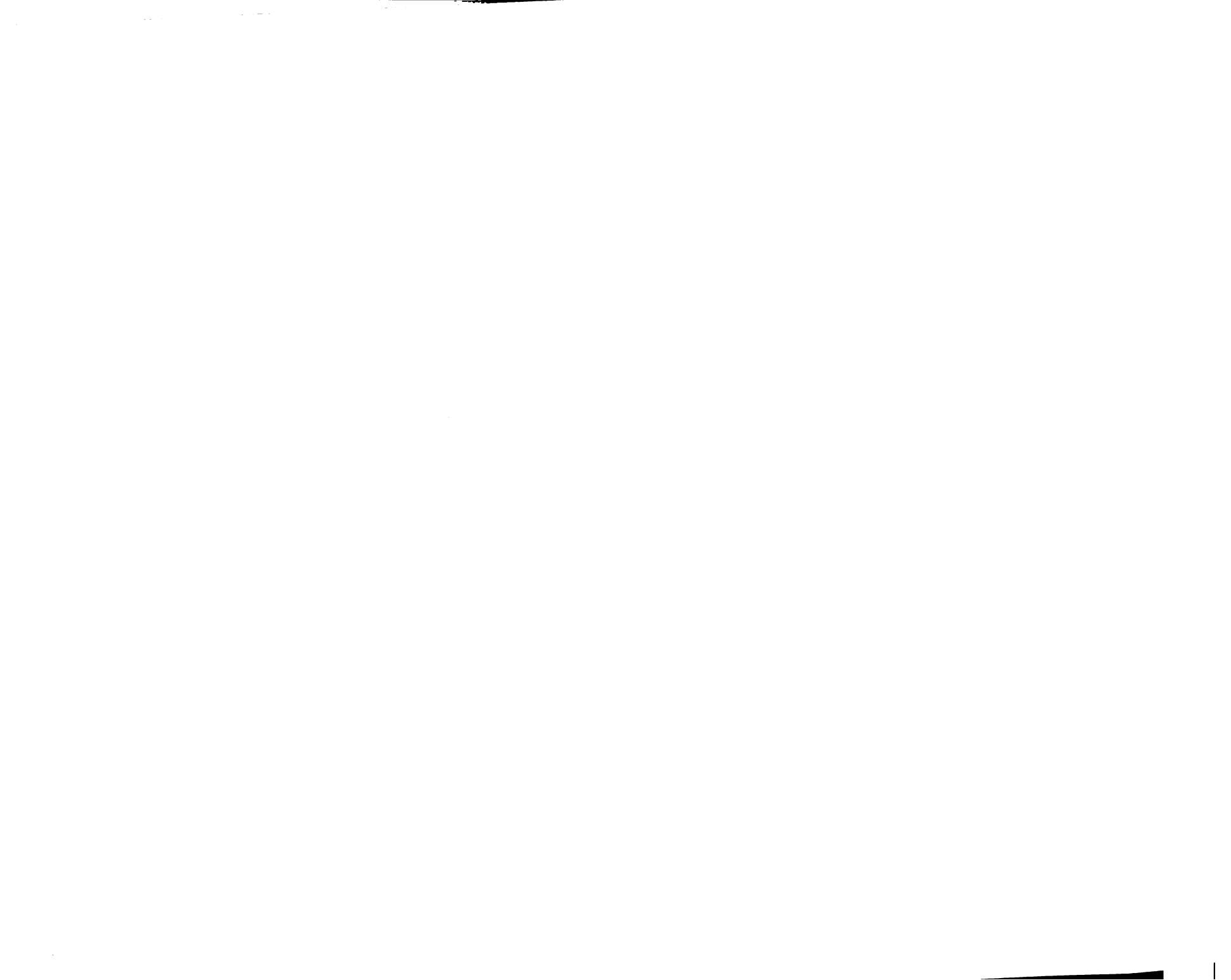
21. COSTA RICA. MINISTERIO DE EDUCACION PUBLICA; IICA (C.R.). 1986. Diagnóstico de problemas administrativos en colegios agropecuarios y propuesta de solución. San Jose, p.v.
22. DAVILA DE SUBAUSTE, C.; MONTOYA, R.; WANDEMBERG, C. 1986. Legislación fitosanitaria de los países andinos: análisis y síntesis. IICA. Miscellaneous Publication no. 635. 81 p.
23. DORESTANT, Y. 1986. Hydraulique generale. IICA. Miscellaneous Publication no. 595. 162 p.
24. DUVIVIER, L. 1986. Hydrologie générale. IICA. Miscellaneous Publication no. 594. 132 p.
25. ECUADOR. MINISTERIO DE AGRICULTURA Y GANADERIA; INSTITUTO NACIONAL DE INVESTIGACIONES AGROPECUARIAS; IICA (EC.). 1986. Demanda por yuca en la costa ecuatoriana: curso sobre raíces y tubérculos andinos. IICA. Papers, Conclusions and Recommendations from Technical Events no. A3/EC-86-003. 10 p.
26. _____; INSTITUTO NACIONAL DE INVESTIGACIONES AGROPECUARIAS; IICA (EC.). 1986. Segundo taller sobre análisis de proyectos. IICA. Papers, Conclusions and Recommendations from Technical Events no. A3/EC-86-002. 14 p.
27. FERRER, J.; RIVERA, R. 1986. Cours sur les maladies exotiques. Port-au-Prince, IICA Office in Haiti. n.p.
28. GALLEJOS J., B. 1986. Técnicas de avalúo de bienes agropecuarios y agroindustriales. IICA. Miscellaneous Publication no. A1/SV-86-003. 65 p.
29. GASTAL, E. 1986. Acción cooperativa y la eficiencia de la investigación agrícola. Montevideo, IICA Office in Uruguay. 38 p.
30. GEYMONAT, D.; QUEIROLO, L.; GOMEZ, G. 1986. Postparto en hembra bovina. IICA. Miscellaneous Publication no. 664. 98 p.
31. GILBERT, J.A.V.; MIRANDA, E.E. de.; DORASWAMY, G. 1986. Testes agronômicas no meio rural: um elemento de diagnóstico para a pesquisa e a extensão rural. Brasília, IICA Office in Brazil. 50 p.
32. GOMEZ, G.; SYZDLO, A.; GARRIDO, H. 1986. Situación de la hidatidosis en el Uruguay. IICA. Miscellaneous Publication no. A1/UY-86-003. 60 p.
33. GUZMAN, R.; LEYUA, P. 1986. Código de recursos renovables y del ambiente y sus decretos reglamentarios. IICA. Miscellaneous Publication no. 512. 2 v.
34. GUZMAN y PIÑEIRO, J. 1986. Small scale goat production. San Jose, IICA Office in Costa Rica. 29 p.
35. IBARRA, E. 1986. Situación de los granos básicos en Honduras y algunas estrategias para mejorar la producción. Tegucigalpa, IICA Office in Honduras. v.p.
36. IICA (ARG.). 1986. Manual de operaciones del sistema computarizado de monitoreo y vigilancia de residuos toxicológicos en carnes y productos cárnicos de exportación. Buenos Aires. n.p.
37. _____ . 1986. Manual ilustrado de técnicas de netropsias y toma de muestra. Buenos Aires. n.p.
38. _____ . 1986. Unidad de sistemas informáticos: manual de operaciones del sistema computarizado de notificación epidemiológica de fiebre aftosa. Buenos Aires. n.p.
39. IICA (BRA.). 1986. O IICA no Brasil. IICA. Miscellaneous Publication no. A4/BR-86-003. 18 p.
40. _____ . 1986. Primeiros resultados de implantação do projeto trabalhos de engenharia rural. IICA. Miscellaneous Publication no. 642. 40 p.
41. IICA (C.R.). 1986. Informe final. Seminario sobre opciones de incorporación del joven al proceso productivo en la Cuenca del Caribe y España, 2 al 6 de junio de 1986. San Jose, IICA Office in Costa Rica. 69 p.
42. IICA (C.R.). FORGE; INSTITUTO NACIONAL DE FOMENTO COOPERATIVO; COMUNIDAD ECONOMICA EUROPEA (FRANCIA). 1986. Memoria del primer taller de contabilidad registros contables. San Jose, IICA Office in Costa Rica. 82 p.
43. _____; INSTITUTO NACIONAL DE FOMENTO COOPERATIVO; COMUNIDAD ECONOMICA EUROPEA (FRANCIA). 1986. Memoria del segundo taller de contabilidad: estados financieros. San Jose, IICA Office in Costa Rica. 46 p.
44. IICA (HAITI). 1986. Identification des aspects à considérer dans le plan d'investissement pour l'aménagement hydro-agricole de la plaine de Leogane: évaluation de la situation existante dans la plaine de Leogane. Port-au-Prince. 4 v.
45. _____ . 1986. Min Kouman pou fe gadinay Kochon. IICA. Miscellaneous Publication no. 663. 48 p.
46. _____ . 1986. Petit guide pratique pour l'éleveur de porcs. IICA. Miscellaneous Publication no. 662. 25 p.
47. IICA (HOND.). PROMECAFE. 1986. Lecturas para grupos sobre la transferencia de tecnología. Tegucigalpa, IICA Office in Honduras. 13 p.
48. IICA (JAM.). 1986. Starting and financing a small business in Jamaica: a guide. IICA. Miscellaneous Publication no. A2/JM-86-001. 223 p.
49. IICA (PAN.). CORECA. 1986. Informe de la sexta reunión del Consejo de Ministros de Agricultura. IICA. Papers, Conclusions and Recommendations from Technical Events no. 378. 79 p.
50. IICA (PERU). 1986. Cooperación técnica del IICA con el sector agrícola del Perú año 1985. Lima, 24 p.

51. IICA (R.D.), 1986, La importancia de los objetivos conductuales en el proceso de enseñanza-aprendizaje, Santo Domingo, v.p.
52. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos de la ciudad de Santo Domingo: diagnóstico y propuesta para el mejoramiento del sistema administrativo, Santo Domingo, 237 p. (Doc. 1, Appendices).
53. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos de la ciudad de Santo Domingo: diagnóstico y propuesta para el saneamiento y regulación de los mercados espontáneos de la ciudad de Santo Domingo, Santo Domingo, 42 p. (Doc. 2).
54. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos de la ciudad de Santo Domingo: fotografías ilustradas del diagnóstico de los mercados públicos, Santo Domingo, 66 fotos. (Appendix 8).
55. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos de la ciudad de Santo Domingo: información básica sobre manejo y manipuleo de productos perecibles en el mercado nuevo, Santo Domingo, 81 p. (Doc. 5).
56. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos en la ciudad de Santo Domingo: informe final de consultoría y presentación de la propuesta, Santo Domingo, v.p.
57. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos en la ciudad de Santo Domingo: informe de visita a Bogotá, Santo Domingo, 60 p. (Doc. 3, Appendix 1).
58. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos en la ciudad de Santo Domingo: mercado público en Honduras, propuesta para remodelación de estructura física área de venta de productos avícolas, Santo Domingo, v.p. (Doc. 1).
59. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos en la ciudad de Santo Domingo: perfil de un proyecto de mercado móvil para la ciudad de Santo Domingo, Santo Domingo, 31 p. (Doc. 3).
60. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos en la ciudad de Santo Domingo: propuesta para el establecimiento de canales directos de mercado, con las organizaciones de productores, Santo Domingo, 10 p. (Doc. 4).
61. _____, 1986, Propuesta técnica para el mejoramiento de la red de mercados públicos en la ciudad de Santo Domingo: proyecto mercado de "La 41", Santo Domingo, v.p. (Doc. 2, Appendix 2).
62. _____, INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final report: flood operation studies, v. 3, IICA, Miscellaneous Publication no. A1/DO-86-004, 158 p.
63. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final Report: hydrologic studies, V. 1, IICA, Miscellaneous Publication no. A1/DO-86-002, 270 p.
64. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final report: Inspection, maintenance and safety studies, v. 4, IICA, Miscellaneous Publication no. A1/DO-86-005, 80 p.
65. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final report: transfer of technology and training, v. 6, IICA, Miscellaneous Publication no. A1/DO-86-007, v.p.
66. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final report: manuales de operación de modelos computarizados para la operación normal de sistemas de embalses, IICA, Miscellaneous Publication no. A1/DO-86-011, 99 p.
67. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final report: Hydrologic modeling systems: user's manual, IICA, Miscellaneous Publication no. A1/DO-86-012, 917 p.
68. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final report: Normal operation, v. 2, IICA, Miscellaneous Publication no. A1/DO-86-003, 311 p.
69. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Valdesia, Final report: Organization and functions for operating the Valdesia reservoir system, v. 5, IICA, Miscellaneous Publication no. A1/DO-86-006, 87 p.
70. _____; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY, 1986, Estudios sobre la operación y seguridad del sistema de embalses de Val-

- desia. Informe final: Plan de operación de emergencia para el sistema de embalses de Valdesia. IICA. Miscellaneous Publication no. A1/DO-86-008. 37 p.
71. _____ ; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY. 1986. Estudios sobre la operación y seguridad del sistema de embalses de Valdesia. Informe final: Plan de operación normal para el sistema de embalses de Valdesia; control de crecidas. IICA. Miscellaneous Publication no. AS1/DO-86-010. 23 p.
 72. _____ ; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY. 1986. Estudios sobre la operación y seguridad del sistema de embalses de Valdesia. Informe final: Plan de operación normal para el sistema de embalses de Valdesia; riego y energía. IICA. Miscellaneous Publication no. A1/DO-86-009. 140 p.
 73. _____ ; INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS; COLORADO STATE UNIVERSITY. 1986. Estudios sobre la operación y seguridad del sistema de embalses de Valdesia. Informe final: Resumen. IICA. Miscellaneous Publication no. A1/DO-86-001. 66 p.
 74. IICA (SALV.). PROMECAFE. 1986. Memoria curso taller sobre administración de fincas cafetaleras en el área piloto del proyecto, abril 8, 9 y 10 de 1986. San Salvador. 19 p.
 75. IICA (URU.). 1986. Diálogo XIII. Royas de cereales de invierno. Montevideo. 179 p.
 76. _____ . 1986. Diálogo XV. Sistemas de labranza y conservación de suelos. Montevideo. 169 p.
 77. _____ . 1986. Diálogo XI. Tecnología para el incremento de la tasa reproductiva de los rodeos. Montevideo. 201 p.
 78. _____ . 1986. Diálogo XIV. Tipificación y clasificación de sistemas de producción. Montevideo. 184 p.
 79. JAMAICA. MINISTRY OF AGRICULTURE; SCIENTIFIC RESEARCH COUNCIL (JAM); UNIVERSITY OF THE WEST INDIES (JAM); CIAT (COL); IICA (JAM). 1986. Tissue culture and miniset technologies for an improved yam production system: a test manual. Kingston. 31 p.
 80. JEAN BAPTISTE, G. 1986. Hydraulique souterraine. IICA. Miscellaneous Publication no. 596. 147 p.
 81. JEAN PIERRE, M. 1986. Introduction à l'évaluation économique des systèmes d'irrigation. IICA. Miscellaneous Publication no. 614. 41 p.
 82. JEAN PIERRE, M. 1986. Topographie. IICA. Miscellaneous Publication no. 656. 78 p.
 83. LABADIE, J.W. 1986. Estudios sobre la operación y seguridad del sistema de embalses de Valdesia. Optimización de la operación de proyectos hidroagrícolas. IICA. Miscellaneous Publication no. A1/DO-86-013. 349 p.
 84. LAMPREA, P.A.; MARIN, J. 1986. Administração da irrigação pública estadual: curso de gestão de irrigação pública estadual. Recife, IICA Office in Brazil. 59 p.
 85. LARAQUE, E.; CLINTON, H.; PROPHETE H.; FLORIVAL, L. 1986. Mécanique des sols et géotechnique. IICA. Miscellaneous Publication no. 655. 228 p.
 86. LEONVIL SERAPHIN, M. 1986. Relation sol-plante-eau. IICA. Miscellaneous Publication no. 599. 171 p.
 87. LOMBARDO, R.A. 1986. Causas de éxitos, limitaciones y fracasos en programas de salud animal. Asunción, IICA Office in Paraguay. 74 p.
 88. MARTYE, R. 1986. Planting and early care of your fruit trees. IICA. Miscellaneous Publication no. A2/BB-86-001. 10 p.
 89. MATUTE BREGANTE, E. 1986. Uso de prancheta Alidade autorredutora Kern nos trabalhos de engenharia do PROVARZEAS Nacional. IICA. Miscellaneous Publication no. 636. 41 p.
 90. MENDOZA, G. 1986. Las asociaciones de productores y cooperativas de la comercialización agrícola en Chile: la situación de la comercialización de granos, hortalizas y frutas. Santiago. IICA Office in Chile. 46 p.
 91. MEREÁ, A. 1986. Considérations de base pour la gestion des systèmes d'irrigation. IICA. Miscellaneous Publication no. 608. 159 p.
 92. METELLUS, F. 1986. Avant mètre et préparation de budget. IICA. Miscellaneous Publication no. 637. 229 p.
 93. MILLAR B., A.A. 1986. Information de base des cultures pour l'aménagement de l'application de l'irrigation. IICA. Miscellaneous Publication no. 598. 79 p.
 94. _____ . 1986. Irrigation suivant les courbes de niveau. IICA. Miscellaneous Publication no. 611. 115 p.
 95. _____ ; 1986. Relations hydriques dans les sols. IICA. Miscellaneous Publication no. 613. 33 p.
 96. _____ ; BRICEÑO, L.; PUJOLS, E. 1986. Propuesta para la organización y funcionamiento de la operación y mantenimiento del sistema de riego del Canal Cambronal. Santo Domingo. IICA Office in the Dominican Republic. 65 p.
 97. MINIONI, E.C.; MAGNANI, M.C.; BERTO SOSA, H. 1986. Preparación casera de productos porcinos; una alternativa para mejorar los niveles alimenticios y el ingreso de la población rural. IICA. Miscellaneous Publication no. 669. 23 p.
 98. MONTALDO, A. 1986. Curso de yuca y su potencialidad en la costa. Quito. IICA Office in Ecuador. 139 p.

99. _____ . 1986. Jengibre y curcuma: aspectos importantes en su producción. IICA. Papers, Conclusions and Recommendations from Technical Events no. A3/EC-86-004. 10 p.
100. MORALES, J., H. 1986. Implicaciones del cambio de tecnología en República Dominicana. Santo Domingo. IICA Office in the Dominican Republic. 24 p.
101. MULLER, R.A. 1986. Algunos conceptos sobre los estudios de epidemiología y de evaluación de los daños causados por la roya del café (*Hemileia vastatrix* B. et Br. y *Hemileia coffeicola* Maublanc et Roger). IICA. Miscellaneous Publication no. 604. 20 p.
102. MUÑOZ PARRA, I. ed. 1986. Bibliografía nacional de hortalizas, 1970-1985 Colombia. IICA. Agricultural Documentation and Information no. 144. 64 p.
103. MURCIA C., H. H. 1986. El desarrollo empresarial aplicado a la actividad agroindustrial. Bogotá, Instituto Colombiano Agropecuario. 27 p.
104. NICARAGUA. DIRECCION GENERAL DE REFORMA AGRARIA. 1986. Educación y organización campesina: informe de investigación sobre los colectivos de educación popular en el agro de la Región II. Managua. 50 p.
105. _____ ; IICA. FORGE. 1986. Metodología e instrumentos para la elaboración de planes de producción y capacitación. Managua. 105 p.
106. NIZAKIMUENA, T. 1986. Écoulement dans les milieux poreux. IICA. Miscellaneous Publication no. 597. 136 p.
107. OLAZABAL B., M.; PACHECO G., L.A.; URBINA A., H.; ORTIZ D., G.; MORA J., G.E. 1986. Bases de la estructura programática institucional: programas de adjudicación de tierras y desarrollo campesino. IICA. Miscellaneous Publication no. A3/CO-85-005. 79 p.
108. _____ ; PACHECO G., L. A.; URBINA A., H.; ORTIZ D., G.; MORA J.; G. E. 1986. Metodología para definir la estrategia y la programación anual del INCORA. IICA. Miscellaneous Publication no. A3/CO-86-008. 172 p.
109. _____ ; PACHECO G., L. A.; URBINA A., H.; ORTIZ D., G.; REYES, G.; DUQUE, A.; PADILLA, J.; GONZALEZ, V.; VARELA, C.; DEVIA, H.; BRAVO, L.; MORA, G. E.; SOTOMAYOR, E. de. 1986. Programación operativa anual: conceptos y procedimientos e instrumentos. IICA. Miscellaneous Publication no. A3/CO-86-007. 117 p.
110. ORTIZ EGAS, J. 1986. Racionalidad económica en las decisiones gerenciales. IICA. Miscellaneous Publication no. A1/SV-86-005. 66 p.
111. OSCANDA GAMARRA, L.L. 1986. Estudio de pastizales: inventario de la comunidad vegetal, determinación de la condición, mapeo de sitios y estimación de la soportabilidad ganadera en el Centro Experimental de la Universidad Nacional del Altiplano "La Raya-Puno". Lima. IICA Office in Peru. v.p.
112. PEÑA DIAZ, I. 1986. Mercadeo de productos agropecuarios. IICA. Papers, Conclusions and Recommendations from Technical Events no. 311-A. 441 p.
113. PIERRE-LOUIS, F. 1986. The concept of resistance in the light of molecular biology. IICA. Miscellaneous Publication no. 658. 13 p.
114. PINCHINAT B., A.M.; FIGUEROA Z., R.; RAMIREZ D., L. 1986. Seminario taller sobre producción de plátano en la selva peruana. IICA. Papers, Conclusions and Recommendations from Technical Events no. A3/PE-86-001. 150 p.
115. PINEDA, R.A. 1986. La transferencia de tecnología vista como un sistema social. Santo Domingo. IICA Office in the Dominican Republic. PROMECAFE. 19 p.
116. PIZARRO C., R.H. 1986. Jaugeage du débit dans l'écoulement à surface libre (méthodes simples). Port-au-Prince. IICA Office in Haiti. 50 p.
117. _____ . 1986. Méthodes d'irrigation des parcelles cultivées. Port-au-Prince. IICA Office in Haiti. 2 v.
118. _____ . 1986. Contribution, par la méthode Pert, à la réalisation de la deuxième étape du développement de la Vallée de l'Artibonite. IICA. Miscellaneous Publication no. 462. 17 p.
119. PLANELLA VILLAGRA, I. 1986. Agroindustria y desarrollo económico. IICA. Papers, Conclusions and Recommendations from Technical Events no. 314. p.v.
120. QUEIROLO, L.E.; GEYMONAT, D.; GOMEZ, G. 1986. Legislación uruguaya, Tema III. IICA. Miscellaneous Publication no. A1/UU-86-001. 47 p.
121. QUIROGA, V. 1986. Manual for the estimation of first and second order regression parameters. IICA. Miscellaneous Publication no. 667. 109 p.
122. RAMIREZ V., M.T.; SANCHEZ, M.D. 1986. Proyecto para la creación del Centro de Documentación de la Amazonia Ecuatoriana. Bogotá, Corporación de Aracua para el Desarrollo de los Territorios Nacionales. 20 p.
123. REVELO, M.; CASTELEN, P.; ASGARALI, J.; FUNG KON, S. 1986. Annotated bibliography on hartrot of coconut and oil palms. IICA. Agricultural Documentation and Information no. 147. 97 p.

124. REYES PACHECO, A. 1986. La agricultura: una alternativa frente a la deuda externa en América Latina y el Caribe. Guatemala. IICA Office in Guatemala. 24 p.
125. _____ . 1986. Reflexiones sobre la sobre-evaluación del lempira. Guatemala. IICA Office in Guatemala. 16 p.
126. _____ ; GARCIA, H. 1986. Apuntes metodológicos de las ferias del agricultor. Guatemala. IICA Office in Guatemala. 16 p.
127. ROJAS, O.E. 1986. Estudios agroclimáticos y zonificación agroecológica de cultivos: metodologías y resultados. IICA. Miscellaneous Publication no. A1/OCR-86-006. 107 p.
128. SANON, J. 1986. Maladies et insectes des plantes cultivées en Haiti. Port-au-Prince. IICA Office in Haiti. 10 p.
129. SARAVIA, A. 1986. Guia de tecnologías apropiadas para la producción de cultivos. Asunción. IICA Office in Paraguay. n.p.
130. STAGNO, H.; ALLEGRI, M. 1986. Organización y administración de la generación y transferencia de la tecnología agropecuaria. IICA. Papers, Conclusions and Recommendations from Technical Events no. A1/UY-86-001. 245 p.
131. TORRES FERNANDEZ, E. 1986. Petit manuel de maladies animales. IICA. Miscellaneous Publication no. 668. n.p.
132. _____ . 1986. Bibliografía latinoamericana en ciencias de la documentación agrícola. IICA. Agricultural Documentation and Information no. 139. 86 p.
133. _____ . 1986. La biblioteca del IICA en Colombia. IICA. Agricultural Documentation and Information no. 138. 33 p.
134. _____ ; CANO, M.; SOCHE, G. 1986. Catálogo de publicaciones periódicas y seriadas de la Biblioteca del IICA en Colombia. IICA. Agricultural Documentation and Information no. 125R2. 93 p.
135. URIBE, M.; SOCHE, G. 1986. Bibliografía latinoamericana de desarrollo rural, 1985. IICA. Agricultural Documentation and Information no. 130. 79 p.
136. VERGARA GARCIA, N. 1986. Formulación y evaluación de proyectos. IICA. Papers, Conclusions and Recommendations from Technical Events no. A3/CO-86-004. 427 p.
137. WERTHEIN, J.; ARGUMEDO, M. (eds). 1986. Educación y participación. IICA. Miscellaneous Publication no. 656. 175 p.
138. YAVAR, E.; MONTOYA, R. 1986. Incidencia de tres insectos en variedades y cultivares de papa en comunidades rurales de Cusco. IICA. Miscellaneous Publication no. 632. 19 p.
139. ZVIETCOVICH MASIOTTI, G.; SALAS MOLINA, W.; NEGRON ARAMBURU, A. 1986. Siembra de papa por brotes. IICA. Miscellaneous Publication no. A3/Pe-86-007. 18 p.



TRAVAXA

ZARACARPAI IACOMVC



NOVJENBRE

Y en este mes nombraua jueves de las aguas llamado cilquiua. Este rrepartía a los señores y a los pobres; cin hazer falta rrepartía y ancí comían todos en este rreyno.

Y en este mes es tienpo de senbrar uerduras y plantar frutas de todas las cosas, para que estando ya con rraýs llegue el aguazero y se críe presto.

Y en este mes a de tener aparexado todas las cosas que a menester los días y meses del ynbierno que no falte desde la comida, harina y sal, agí y leña bastante en todo el rreyno.

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
CENTRAL AREA							
TECHNICAL SUPPORT TO OPERATE THE REGIONAL COUNCIL FOR AGRICULTURAL COOPERATION IN CENTRAL AMERICA, PANAMA AND THE DOMINICAN REPUBLIC (CORECA)							
	CORECA-Countries	208 194	90 618	298 812	30.33	0	0
INTEGRATED FARM PLANNING IN AGRICULTURAL SCHOOLS							
	IICA/MEP	4 927	5 263	10 190	51.65	700	14
ASSISTANCE WITH ZONING FOR AGRICULTURAL DEVELOPMENT AND RENEWABLE NATURAL RESOURCES							
	IICA/MAG/ MIDEPLAN	17 844	70 669	88 513	79.84	1 400	8
COOPERATIVE PROGRAM FOR THE PROTECTION AND MODERNIZA- TION OF COFFEE CULTIVATION IN MEXICO, CENTRAL AMERICA, PANAMA AND THE CARIBBEAN (PROMECAFE)							
	PROMECAFE-Countries	158 660	85 466	1 174 584	7.28	0	0
	PROMECAFE-ROCAP	930 458				51 100	5
INSTITUTIONAL SUPPORT FOR THE NATIONAL PROGRAM OF STUDENT AND YOUTH CO- OPERATIVES OF COSTA RICA							
	IICA/UNACOOP	29 913	37 816	67 729	55.83	2 400	8
STRENGTHENING MANAGERIAL SKILLS IN ASSOCIATIVE AGRICULTURAL PRODUCTION ENTERPRISES (FORGE)							
	IICA/EEC	111 600	61 994	179 003	34.63	0	0
	Gov. Nicaragua	511				0	0
	IICA/EEC	4 898				0	0

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
ST: SUPPORT FOR THE ORGANIZATION AND MANAGEMENT OF FINANCIAL RESOURCES FOR AGRICULTURAL SCHOOLS	IICA/MEP	7 638	16 610	24 248	68.50	1 100	14
ST: TRAINING PROGRAM FOR CREDIT AGENTS OF THE NATIONAL BANK OF COSTA RICA (BNCR)	IICA/BNCR	9 665	0	9 665	0.00	1 600	17
ST: TRAINING PROGRAM FOR PROFESSIONALS IN THE AGRICULTURAL SECTOR AND THE COOPERATIVE MOVEMENT IN PROJECT IDENTIFICATION AND EVALUATION OF AGRICULTURAL PROJECTS	IICA/CENECOOP	13 431	0	13 431	0.00	2 000	15
TECHNICAL COOPERATION SERVICES FOR THE PROGRAM TO INCREASE AGRICULTURAL PRODUCTIVITY (PIPA)	IICA/MAG/IDB	117 829	0	117 829	0.00	16 500	14
ST: COURSE ON ANALYSIS OF PRODUCTION ALTERNATIVES AND ORGANIZATION OF SUPPORT SERVICES FOR IDA OFFICIALS	IICA/IDA	7 500	0	7 500	0.00	1 100	15
CONSOLIDATION OF POLICY PLANNING AND IMPLEMENTATION SYSTEM AND SEA SERVICES	IICA/SEA/AID	5 000	67 610	72 610	93.11	0	0
STRENGTHENING THE SYSTEM FOR OBSERVATION AND MANAGEMENT OF RENEWABLE NATURAL RESOURCES	IICA/INDRHI	9 500	84 538	94 038	89.90	1 900	20

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
PROTECTION PLAN FOR THE WATERSHED AFFECTED BY THE BLANCO RIVER HYDROELECTRIC PROJECT	IICA/Corp. Dom. Elect.	44 723	0	44 723	0.00	8 900	20
STUDY OF PROTECTION OF THE WATER RESOURCE SYSTEM OF THE NIZAO RIVER WATERSHED- VALDESIA DAM SYSTEM	IICA/INDRHI/ CSU	71 971	0	71 971	0.00	4 600	6
PILOT PROJECT OF MANAGEMENT, OPERATION AND MAINTENANCE OF AN AREA OF THE NORTHERN YAQUE IRRIGATION PROJECT	IICA/INDRHI/IDB	185 598	0	185 598	0.00	24 100	13
ST: INTEGRATION AND IMPLEMENTATION OF A MULTI- NATIONAL PROJECT IN COOPERA- TION WITH THE GOVERNMENT OF CANADA TO SUPPORT EXPERIMEN- TAL DEVELOPMENT FOR MILK PRODUCTION IN THE AMERICAN TROPICS	Simon Bolivar Fund	32 000	0	32 000	0.00	0	0
ST: FORMULATION OF AN AGRI- CULTURAL CREDIT AND DEVELOP- MENT PROJECT IN AN IRRIGATED AREA OF THE SOUTHWESTERN REGION	IICA/SEA	47 500	0	47 500	0.00	7 100	15
ST: STUDY OF THE ZONE IRRIGATED BY THE CAMBRONAL CANAL	IICA/SEA	19 730	0	19 730	0.00	3 000	15
ST: SERVICE CONTRACT BETWEEN THE CITY COUNCIL OF THE NATIONAL DISTRICT AND IICA	IICA/ADN	40 320	0	40 320	0.00	4 000	10

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES SOURCE	AMOUNT	IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
						AMOUNT	PERCENT OF EXT. RESOURCES
ST: ADMINISTRATIVE SUPPORT OF INDRHI FOR EQUIPMENT PURCHASE	IICA/INDRHI CSU	34 260	0	34 260	0.00	1 700	5
ST: ESTABLISHMENT OF THE FOLLOW-UP AND EVALUATION SYSTEM FOR THE NIZAO- VALDESIA PROJECT	IICA/INDRHI World Bank	64 300	0	64 300	0.00	8 500	13
EL SALVADOR							
ST: TECHNICAL COOPERATION WITH THE AGRICULTURAL DEVELOPMENT BANK OF EL SALVADOR FOR TRAINING TECHNICAL PERSONNEL	IICA/BFA	4 980	0	4 980	0.00	0	0
GUATEMALA							
IMPROVING DOUBLE PURPOSE CATTLE PRODUCTION SYSTEMS IN GUATEMALA	IICA/IDRC	112 969	25 169	138 138	18.22	11 300	10
SUPPORT FOR THE NATIONAL AGRINTER CENTER OF THE SCHOOL OF AGRONOMY IN SAN CARLOS UNIVERSITY OF GUATEMALA (FAUSAC)	FAUSAC	35 402	0	35 402	0.00	3 200	9
TECHNICAL COOPERATION FOR INSTITUTIONAL STRENGTH- ENING OF ANIMAL HEALTH PROGRAMS	MAGA/IDB	515 847	0	515 847	0.00	87 700	17
ST: PUBLICATION OF "HARVEST INSURANCE FOR AGRICULTURAL DEVELOPMENT: DISCUSSION TOPICS AND EXPERIENCES"	FDPI	1 800	0	1 800	0.00	0	0

AREA/COUNTRY- PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
ST: PREPARATION OF PROJECT PROFILES AND TECHNICAL COOPERATION	Simon Bolivar Fund	6 500	32 813	39 313	83.47	0	0
COOPERATIVE PROJECT OF IICA AND THE INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC) TO INTRODUCE AND DISSEMINATE THE USE OF AGRINTER AND AGRIS/ IDRC DATA BASE SYSTEMS IN THE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN	IICA/IDRC	26 843	5 290	32 133	16.46	0	0
TRAINING AND STUDY ON AGRARI- AN REFORM AND RURAL DEVEL- OPMENT IN THE CENTRAL AMERI- CAN ISTHMUS AND THE DOMINI- CAN REPUBLIC (PRACA)	IICA/PRACA	140 000	61 154	202 154	30.75	0	0
SUPPORT FOR INSTITU- TIONAL MECHANISMS TO PROMOTE AGRICUL- TURAL EXPORTS	IICA/BANADESA IICA/CONSULPLANE	21 557 23 657	93 714	138 928	67.46	0 1 400	0 6
OFFICE SUPPORT	CATIE Contrib.	1 200	152 647	153 847	99.22	0	0
MEXICO							
SARH-IICA TECHNICAL COOPERATION TO STRENGTHEN STATE LEVEL PLANNING ACTIVITIES	IICA/SARH	8 132	39 388	47 470	82.87	600	7

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
ST: SARH-IICA TECHNICAL COOPERATION IN ACTIVITIES FOR PLANNING AND POLICY ANALYSIS FOR RURAL DEVELOPMENT	IICA/SARH	8 226	44 129	52 355	84.29	700	9
NICARAGUA							
ST: TECHNICAL ASSISTANCE TO PROGRAM OF TRAINING IN ORGANIZATION AND MANAGE- MENT FOR ORGANIZED FARMERS IN NICARAGUA	IICA/G. France MID	12 892	2 321	15 213	15.26	2 300	18
AGRICULTURAL INFORMATION NETWORK	IICA/IDRC/CENIDA	6 400	0	6 400	0.00	500	8
CARIBBEAN AREA							
BARBADOS							
ST: COOPERATION IN AGRICULTURE FOR TRAINING PERSONNEL OF THE SCOTLAND DISTRICT SOIL CONSERVATION UNIT	IICA/MANR-IDB	35 724	0	35 724	0.00	3 900	11
GRENADA							
ST: CONTROL AND SUPERVISION OF FRUIT FLY IN GRENADA	IICA/MINAG	16 774	0	16 774	0.00	1 300	8
GUYANA							
DEMONSTRATION UNIT ON FRUIT CROP PROPAGATION	IICA/IDRC	16 125	0	16 125	0.00	1 300	8

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
HAITI							
TECHNICAL COOPERATION WITH THE MINISTRY OF AGRICULTURE, NATURAL RESOURCES AND RURAL DEVELOPMENT (MARNDR) AND THE ARTIBONITE RIVER VALLEY DEVEL- OPMENT AGENCY IN MANAGE- MENT OF WATER RESOURCES	IICA/USAID- FAMV	6 030	61 586	90 016	68.42	500	8
	IICA/USAID	22 400				2 200	10
STRENGTHENING OF THE MARNDR LIVESTOCK DIVISION AND SUPPORT FOR SWINE REPOPULATION – INTERPHASE	USAID-SWINE REPOP/ IICA/USAID	589 630	46 710	1 640 504	2.85	58 900	10
	2 PHASE	992 849				11 315	89 500
SUPERVISION OF ANIMAL DISEASES	IICA/Haiti (Anim. Health)	88 860	0	434 589	0.00	8 900	10
	IICA/Plan. Min.	345 729				0	0
ST: STRENGTHENING COFFEE PRODUCTION IN HAITI	IICA/USAID/ HAITI	34 545	0	34 545	0.00	3 500	10
JAMAICA							
TECHNICAL COOPERATION FOR CROP SYSTEMS	Crop. S. IICA/IDRC	63 800	75 819	139 619	54.30	6 400	10
STRENGTHENING RURAL DEVELOPMENT PROGRAMS OF THE CARIBBEAN THROUGH HUMAN RESOURCE DEVELOPMENT	IICA/AID	21 765	100 282	122 047	82.17	3 300	15
ST: IMPROVING PRODUCTION SYSTEMS IN THE WINDWARD ISLANDS	Simón Bolívar Fund	63 000	0	63 000	0.00	0	0
ST: SUPPORT FOR IMPLEMENTA- TION OF THE AGRICULTURAL CENSUS IN SAINT LUCIA	IICA/MINAG	9 000	0	9 000	0.00	900	10

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES

ANDEAN AREA

STRENGTHENING THE PUBLIC AGRICULTURAL SECTOR OF COLOMBIA IN PLANNING AND MANAGEMENT FOR AGRICULTURAL AND RURAL DEVELOPMENT	IICA/OPSA	228 634	84 700	316 100	26.80	34 300	15
	IICA/MINAGRIC.	2 766					
STRENGTHENING THE NATIONAL INFORMATION SUBSYSTEM IN AGRICULTURAL SCIENCES (SNICA)	IICA/IDRC	21 000	96 200	144 671	66.50	0	0
	IICA/MINAGRIC.	27 471					
TRAINING IN HIGH PRIORITY AREAS FOR AGRICULTURAL SEC- TOR AGENCIES (NATIONAL AGRI- CULTURAL TRAINING PROGRAM – PNCA)	IICA/PNCA	139 779	0	139 779	0.00	0	0
SUPPORT FOR THE COLOMBIAN AGRARIAN REFORM INSTITUTE (INCORA) IN STAFF TRAINING	IICA/INCORA	344 080	0	344 080	0.00	29 900	9
SUPPORT FOR COLOMBIAN AG. INST. IN ORGANIZATION AND MANAGEMENT OF RESEARCH AND TECH. TRANSFER	IICA/ICA	612 000	54 000	666 000	8.11	61 200	10
SUPPORT FOR THE CENICAÑA INSTITUTIONAL RESEARCH MODEL	IICA/CENICAÑA	60 582	0	60 582	0.00	6 100	10
SUPPORT FOR THE DRI-PAN PROGRAM IN MARKETING	IICA/DRI-PAN	100 000	0	100 000	0.00	15 000	15
ST: USE OF MASS MEDIA FOR TECHNOLOGY TRANSFER AND FOOD SECURITY	IICA/AID	25 000	0	25 000	0.00	2 000	8

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES SOURCE	AMOUNT	IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
						AMOUNT	PERCENT OF EXT. RESOURCES
OFFICE MANAGEMENT ACTIVITIES	IICA/MINAGRIC.	4 763	132 000	136 763	96.52	0	0
 							
SUPPORT FOR THE PROJECT ON TROPICAL GRASS EVALUATION IN ECUADOR	IDRC/Trop. Grass Eval.	30 000	0	30 000	0.00	4 500	15
TECHNICAL COOPERATION WITH THE INTEGRATED RURAL DEVEL- OPMENT PROGRAM	IICA/SEDRI/AID	122 243	56 126	389 385	14.41	14 700	12
	IICA/SEDRI/BM	208 127				25 000	12
	IICA/MAG	2 889				0	0
ST: SUPPORT FOR SHORT-TERM ACTIONS REQUESTED BY THE MINISTRY OF AGRICULTURE	IICA/MAC	7 923	0	7 923	0.00	600	8
COOPERATIVE AGRICULTURAL RESEARCH PROGRAM FOR THE ANDEAN SUBREGION (PROCIANDINO)	IICA/IDB/ PROCIANDINO	137 163	32 612	169 775	19.21	0	0
OFFICE MANAGEMENT ACTIVITIES	IICA/Gov. Ecuador	20 495	121 302	141 797	85.55	0	0
 							
COOPERATIVE IICA/IDRC PROJECT TO INTRODUCE AND DISSEMINATE THE USE OF AGRINTER AND AGRIS DATA BASE SYSTEMS IN PERU	IICA/IDRC	25 000	0	25 000	0.00	0	0
RESEARCH PROJECT FOR ANDEAN CROP SYSTEMS	IICA/IDRC/ Canada	73 924	0	73 924	0.00	11 100	15
PROCESSING ANDEAN CROPS IN PERU	IICA/IDRC/ Postharvest	49 542	0	49 542	0.00	7 400	15

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
INTENSIFICATION OF MEDI- TERRANEAN FLY CAMPAIGN IN PERU AND CHILE BORDER ZONE	IICA/SAG-Chile	29 440	0	29 440	0.00	2 300	8
ST: SUPPORT FOR GUIDANCE OF MICROREGIONAL DEVELOPMENT OF MELGAR (PUNO PROVINCE)	IICA/CORPUNO	15 090	77 338	92 428	83.67	1 500	10
ST: ADVISORY SERVICES FOR MICHIGAN STATE UNIVERSITY IN BEAN/COWPEA CROPS PROJECT EVALUATION	IICA/Mich. St. U.	3 500	0	3 500	0.00	0	0
VENEZUELA							
SUPPORT FOR THE NATIONAL AGRICULTURAL INFORMATION NETWORK (REDIAGRO)	IICA/IDRC	18 840	21 625	40 465	53.44	0	0
SUPPORT FOR THE FCA IN PLANNING OPERATIONS AND ESTABLISHING THE NATIONAL CREDIT PROGRAM FOR AGRICUL- TURAL MARKETING AND AGRO- INDUSTRY DEVELOPMENT	IICA/FCA	50 379	71 741	122 120	58.75	5 000	10
REINFORCING THE ANIMAL HEALTH PROGRAM IN THE MAC GENERAL OFFICE OF LIVESTOCK DEVELOPMENT (An. Health)	IICA/MAC	332 217	0	332 217	0.00	28 200	8
OFFICE MANAGEMENT ACTIVITIES	IICA/MAC	19 215	101 719	120 934	84.11	0	0
SOUTHERN AREA							
ARGENTINA							
LETTER OF UNDERSTANDING No. 1 WITH INTA	IICA/INTA	15 000	5 000	20 000	25.00	1 200	8

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES SOURCE	EXTERNAL RESOURCES AMOUNT	IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
						AMOUNT	PERCENT OF EXT. RESOURCES
LETTER OF UNDERSTANDING No. 2 WITH INTA	IICA/INTA	3 798	304	4 102	7.41	300	8
LETTER OF UNDERSTANDING No. 3 WITH INTA	IICA/INTA	14 828	1 186	16 014	7.41	1 200	8
INSTITUTIONAL STRENGTHENING OF INFORMATION SYSTEMS FOR NATIONAL BEEF AND GRAIN BOARDS	IICA/JNC-JNG	105 580	10 890	176 670	6.16	8 500	8
	IICA/JNC-JNG	60 200				4 900	8
ST: TECHNICAL COOPERATION TO PREPARE CREDIT PROGRAM FOR MACHINERY ACQUISITION AND INTERMEDIATE GRAIN STORAGE	IICA/SAG y P	55 555	3 611	59 166	6.10	4 400	8
COOPERATION FOR MODERNIZING THE AGRICULTURAL SECTOR IN ARGENTINA	IICA/SAG y P	506 686	35 798	542 484	6.60	44 100	9
BRAZIL							
TECHNICAL COOPERATION IN THE AREA OF NATURAL RESOURCES AND IRRIGATION IN THE STATE OF BAHIA	SEPLANTEC/CEI	71 279	0	312 452	0.00	7 100	10
	SEPLANTEC/CEI	241 173	0			24 100	10
COOPERATION WITH THE MINISTRY OF THE INTERIOR (MINTER) AND ASSOCIATED AGENCIES IN THE DEFINITION, PREPARATION AND IMPLEMENTATION OF IRRIGATION PLANS, PROGRAMS AND PROJECTS	IICA/MINTER	66 945	0	66 945	0.00	6 700	10
TECHNICAL COOPERATION WITH THE SAN FRANCISCO VALLEY DEVELOPMENT AGENCY (CODEVASF) IN OPERATION AND MAINTENANCE OF IRRIGATION DISTRICTS	IICA/CODEVASF	92 910	0	92 910	0.00	9 300	10

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
TECHNICAL COOPERATION WITH THE NATIONAL DROUGHT CONTROL DEPARTMENT (DNOCS) IN THE OPERATION AND MAINTENANCE OF IRRIGATION DISTRICTS	IICA/DNOCS	82 080	0	82 080	0.00	8 200	10
TECHNICAL COOPERATION WITH THE SECRETARIAT OF AGRICULTURE AND PRODUCTION OF THE FEDERAL DISTRICT IN THE AREA OF IRRIGATION	SEC/Gov. Fed. Dist.	21 477	0	21 477	0.00	2 100	10
COOPERATION WITH THE MINISTRY OF IRRIGATION AND ASSOCIATED AGENCIES IN THE PREPARATION AND IMPLEMENTATION OF IRRI- GATION PLANS AND PROGRAMS	IICA/MINTER	216 041	0	216 041	0.00	21 600	10
TECNICAL COOPERATION WITH CODEVASF FOR DEVELOPMENT OF IRRIGATED AGRICULTURE	IICA/CODEVASF	224 109	0	224 109	0.00	22 400	10
COOPERATION WITH THE SECRE- TARIAT OF EDUCATION OF THE PERNAMBUCO STATE SECRETARIAT OF EDUCATION IN PARTICIPATORY EVALUATION AND PLANNING OF RURAL EDUCATION PROGRAMS	IICA/MEC-PERN.	65 967	9 948	75 915	13.10	6 600	10
COOPERATION WITH THE PIAUI SECRETARIAT OF EDUCATION IN IMPLEMENTATION OF THE STATE RURAL EDUCATION PROGRAM	IICA/SEC. PIAUI	78 496	9 948	88 444	11.25	7 800	10

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
COOPERATION WITH THE MINISTRY OF EDUCATION IN REDEFINING AND IMPLEMENTING POLICIES FOR FORMAL AND NONFORMAL EDUCATION IN RURAL AREAS	IICA/MEC	117 733	44 034	161 767	27.22	11 800	10
SUPPORT FOR THE NORTHEASTERN SUPERINTENDANCY OF DEVELOP- MENT (SUDENE) IN THE FORMULA- TION AND IMPLEMENTATION OF RURAL DEVELOPMENT PLANS, PRO- GRAMS AND PROJECTS IN THE NORTH- EASTERN REGION OF BRAZIL	IICA/SUDENE	691 926	0	691 926	0.00	69 200	10
COOPERATION WITH THE CEARA STATE GOVERNMENT IN THE IMPLEMENTATION OF THE PDRI- CEARA THROUGH FARMER ORGANIZATION AND TRAINING	IICA/CEPA/CEARA	13 118	0	13 118	0.00	1 300	10
TECHNICAL COOPERATION FOR PREPARATION, IMPLEMENTATION AND EVALUATION OF RURAL DEVELOPMENT PROGRAMS IN THE STATE OF BAHIA	SEPLANTEC/CAR	267 850	0	267 850	0.00	26 800	10
COOPERATION WITH THE AGROENERGY PROGRAM OF THE MINISTRY OF AGRICULTURE	IICA/SUPLAN- AGROENERGY	126 495	0	126 495	0.00	12 700	10
TECHNICAL COOPERATION IN ANIMAL HEALTH	IICA/SNAD (LANARA)	49 312	79 536	128 848	61.73	4 900	10
OFFICE MANAGEMENT ACTIVITIES	IICA/CINAGRA/M.A. IICA/CIAT	14 306 5 737	588 626	608 669	96.71	0	0

AREA/COUNTRY PROJECT OR ACTION	EXTERNAL RESOURCES		IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
	SOURCE	AMOUNT				AMOUNT	PERCENT OF EXT. RESOURCES
PARAGUAY							
DEVELOPMENT OF AGRICULTURAL TECHNOLOGY GENERATION AND TRANSFER	IICA/IDB/MAG(3-4)	42 125	5 919	48 044	12.32	5 900	14
URUGUAY							
TECHNICAL COOPERATION FOR DEVELOPING INSTITUTIONAL STRATEGIES AND MECHANISMS FOR AGRICULTURAL TECHNOLOGY GENERATION AND TRANSFER	IICA/MAP-CIAAB	81 000	64 022	145 022	44.15	6 500	8
COOPERATIVE AGRICULTURAL RESEARCH PROGRAM OF THE SOUTHERN CONE (IICA/IDB/ PROCISUR)	IICA/IDB/PROCISUR	891 132	245 000	1 136 132	21.56	0	0
REGIONAL AGRICULTURAL DEVELOPMENT IN URUGUAY	IICA/CALAGUA- CALPICA	163 400	72 471	235 871	30.72	19 600	12

UNIT PROJECT OR ACTION	EXTERNAL RESOURCES SOURCE	AMOUNT	IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
						AMOUNT	PERCENT OF EXT. RESOURCES
PROGRAMS							
MANAGEMENT OF PROGRAM V ACTIVITIES	IICA/NACA	2 285	98 500	156 628	62.89	0	0
	IICA/EPA-USDA	4 744				0	0
	IICA/OICD	45 910				4 600	10
	IICA/FAO/Ad hoc Com.	5 189				0	0
ST: TECHNICAL SEMINAR ON TRADE POLICIES AND PRICES IN WORLD AGRICULTURE	IICA/EDI	64 515	8 600	73 115	11.76	11 400	18
ST: FEASIBILITY STUDY FOR CONTROL OF <i>AMBLYOMMA</i> <i>VARIEGATUM</i> AND HYDROPERI- CARDIUM IN THE EASTERN CARIBBEAN	IICA/USDA	9 200	10 000	19 200	52.08	800	9
RESEARCH NETWORK IN ANIMAL PRODUCTION SYSTEMS FOR LATIN AMERICA (RISPAL)	IICA/IDRC/RISPAL	41 620	21 787	63 407	34.36	5 400	13
STRENGTHENING MANAGERIAL SKILLS FOR GUIDANCE OF THE AGRICULTURAL AND RURAL DEVEL- OPMENT PROCESS IN PROGRAMS AND PROJECTS (PROPLAN)	PROPLAN/Kellogg	30 000	71 154	101 154	70.34	0	0
IICA-IDB PROJECT PREPARATION UNIT (UPP)	IICA/IDB-ATN IDB/ATN	790 838 139 473	13 667	943 978	1.45	0 0	0 0
TRAINING AND DEVELOPMENT OF METHODS FOR PROJECT IDEN- TIFICATION AND PREPARATION	IICA/WB/EDI	162 500	117 287	279 787	41.92	0	0

UNIT PROJECT OR ACTION	EXTERNAL RESOURCES SOURCE	AMOUNT	IICA RESOURCES	TOTAL	% IICA CONTRIBUTION	CATIS	
						AMOUNT	PERCENT OF EXT. RESOURCES
ST: CONTINUATION OF ACTIVITIES OF THE MONTEVIDEO SYMPOSIUM ON THE FINANCIAL CRISIS AND THE AGRICULTURAL SECTOR IN LATIN AMERICA AND THE CARIBBEAN	IICA/EDI/WB	6 000	0	6 000	0.00	0	0
HEMISPHERIC NUMERICAL INFOR- MATION SYSTEM FOR AGRICUL- TURAL DEVELOPMENT AND RURAL WELL-BEING	IICA/Kellogg	56 300	150 532	206 832	72.78	0	0
DOCUMENTAL INFORMATION SYSTEMS AND SERVICES FOR LATIN AMERICA AND THE CARIBBEAN	IICA/CATIE Contrib. Bibliographic Center	25 000 15 000	375 036	415 036	90.36	0 0	0 0
COOPERATION IICA/IDRC PROJECT TO INTRODUCE AND DISSEMINATE AGRINTER AND AGRIS DATA BASE SYSTEMS IN THE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN	IICA/IDRC	31 099	1 366	32 465	4.21	0	0
		17 864 212	4 395 493	22 259 705	19.75	1 383 200	8

**This report was prepared and published under the responsibility
of the Directorate for the Coordination of Institutional
Affairs of the Inter-American Institute for
Cooperation on Agriculture.**

**Publication was completed in the IICA Editorial Service
Print Shop in March, 1987, with a press run of
1,000 copies.**

INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE
Apdo. 55-2200 Coronado, Costa Rica – Tel.: 29-02-22 – Cable: IICASANJOSE – Telex: 2144 IICA
Electronic Mail EIES: 1332, IICA DG

