



RECIPROCAL COOPERATION NETWORKS  
MANAGED BY IICA FOR THE GENERATION  
AND TRANSFER OF AGRICULTURAL TECHNOLOGY

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PROGRAM II: TECHNOLOGY GENERATION AND TRANSFER



# RECIPROCAL COOPERATION NETWORKS MANAGED BY IICA FOR THE GENERATION AND TRANSFER OF AGRICULTURAL TECHNOLOGY

COOPERATIVE AGRICULTURAL RESEARCH  
PROGRAM FOR THE ANDEAN SUBREGION  
(PROCIANDINO)

COOPERATIVE PROGRAM FOR THE DEVELOPMENT OF  
AGRICULTURAL TECHNOLOGY IN THE SOUTHERN CONE  
(PROCISUR)

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

REGIONAL NETWORK FOR CACAO TECHNOLOGY  
GENERATION AND TRANSFER  
(PROCACAO)

COOPERATIVE PROGRAM FOR THE PROTECTION AND  
MODERNIZATION OF COFFEE CULTIVATION IN MEXICO,  
CENTRAL AMERICA AND THE DOMINICAN REPUBLIC  
(PROMECAFE)

PROGRAM TO STRENGTHEN AGRICULTURAL RESEARCH ON  
BASIC GRAINS IN CENTRAL AMERICA

COOPERATIVE PROGRAM ON RESEARCH AND TECHNOLOGY TRANSFER  
FOR THE SOUTH AMERICAN TROPICS  
(PROCITROPICOS)

TECHNOLOGY GENERATION AND TRANSFER  
NETWORK ON TROPICAL FRUITS  
(PROFRUTAS)

## PROGRAM II: TECHNOLOGY GENERATION AND TRANSFER

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# PROCISUR

Geographic Coverage:

Argentina

Bolivia

Brazil

Chile

Paraguay

Uruguay



**COOPERATIVE PROGRAM FOR THE DEVELOPMENT OF  
AGRICULTURAL TECHNOLOGY IN THE SOUTHERN CONE  
(PROCISUR)**

**BACKGROUND**

*PROCISUR has been in operation since 1984 as a cooperative venture between Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay, with economic support from IICA and the IDB. The second stage of PROCISUR began in April 1990, with funding from participating countries, IICA and donors contributing to specific projects.*

**GENERAL OBJECTIVES**

*To establish the conditions that will ensure ongoing cooperation, reciprocal support and integrated action among the national agricultural research institutions of the countries of the Southern Cone.*

**SPECIFIC OBJECTIVES**

- a. To support joint actions among national agricultural research institutions of the participating countries in order to increase the exchange of agricultural technology.*
- b. To encourage reciprocal assistance among the participating countries and facilitate the dissemination and utilization of technologies developed by these countries individually, through the horizontal exchange of know-how, experiences and genetic materials generated through agricultural research in the countries.*
- c. To identify new possibilities for integrated efforts and cooperative and/or joint actions among the participating countries, in order to make maximum use of available resources and seek solutions to common problems.*
- d. To contribute to the coordination of actions among national agricultural research institutions and international agricultural research centers.*
- e. To support the identification and transfer of pertinent and useful knowledge for agricultural development, from other countries to the participating countries.*
- f. To keep up-to-date information on the organization and operations of agricultural research institutions in the countries of the Southern Cone.*
- g. To identify, prepare and execute integrated cooperation projects, including studies that will contribute to technological integration.*

## **ACTIVITIES**

- a. *Technological cooperation: (i) technical and coordination meetings; (ii) seminars; (iii) exchange of advisory services; (iv) observation visits.*
- b. *Advisory services through: (i) the hiring of international consultants; and (ii) cooperation provided by experts from international centers (CIMMYT, CIAT, ISNAR, CATIE, CIP), and other specialized organizations.*
- c. *Training; (i) short courses; (ii) applied or in-service training; and (iii) training at specialized institutions.*
- d. *Studies and analyses to generate up-to-date information on the situation of the agricultural sector, and, in particular, on technology generation and transfer institutions in participating countries, as well as on organizations that can contribute to the process of technological integration.*
- e. *Joint research ventures with financial support for transfer of genetic and bibliographic materials and the purchase of materials needed to carry out research activities directly related to the integrated action of the Program's projects.*

## **AREAS OF ACTION**

- a. *Information and documentation*
- b. *Socioeconomics*
- c. *Communications*
- d. *Research management and planning*

*Research and technology transfer on:*

- a. *Corn*
- b. *Wheat*
- c. *Soybeans and other oilseeds*
- d. *Cattle*
- e. *Rice*
- f. *Weeds*

*In the new stage, specific projects will also be included on biotechnology, fruits and vegetables, soil conservation and management, biological control, pasture management, and others.*

## **SUMMARY OF ACHIEVEMENTS AND RESULTS**

*In 1989 alone, the Program carried out 214 activities, which included 29 technical meetings, one seminar, 134 exchanges of professionals and 36 training activities.*

Also during 1989, PROCISUR was evaluated with regard to the technological transfer occurring among the member countries and its role in increasing productivity and production of wheat, corn, and soybeans. The study demonstrated the significant economic impact of the Program's activities, with particularly positive results in terms of the rate of return on research investments: 191% for corn, 110% for wheat and 179% for soybeans. The importance of these figures is enhanced further by the fact that PROCISUR investments in the countries represent less than 1% of what countries themselves invest in agricultural research programs.

## **STRUCTURE**

**Steering Committee:** Composed of high-level permanent officials from national agricultural research institutions in the participating countries.

**Technical Team:** Composed of an Executive Secretary, up to two support specialists (one in institutional development and another in communications), and international coordinators of the Program's projects.

## **PARTICIPATING NATIONAL INSTITUTIONS**

*National Agricultural Technology Institute - INTA (Argentina)*

*Bolivian Agricultural Technology Institute - IBTA (Bolivia)*

*Brazilian Institute of Agricultural Research - EMBRAPA (Brazil)*

*National Agricultural Research Institute - INIA (Chile)*

*Office for Agricultural and Forestry Extension and Research - DIEAF (Paraguay)*

*Alberto Boerger Agricultural Research Center - CIAAB (Uruguay)*

## **FINANCIAL RESOURCES AND DURATION OF THE PROJECT**

**STAGE 1:** Overall Budget US\$8,322,922

*Beginning: August 1984 Ending: March 1990*

**STAGE 2:** Overall Budget US\$5,700,000

*1990 budget US\$ 950,000*

*Beginning: April 1990 Ending: March 1996*

# PROCIANDINO

Geographic Coverage:

Bolivia  
Colombia  
Ecuador  
Peru  
Venezuela





**COOPERATIVE AGRICULTURAL RESEARCH PROGRAM  
FOR THE ANDEAN SUBREGION  
(PROCIANDINO)**

**BACKGROUND**

*In March 1986, IICA and the governments of the Republic of Bolivia, Colombia, Ecuador, Peru and Venezuela signed a non-refundable technical cooperation agreement with the Inter-American Development Bank, which led to the creation of the Cooperative Agricultural Research Program for the Andean Subregion (PROCIANDINO).*

*The first stage of PROCIANDINO covered the years 1987 to 1990. A new six-year agreement financed by the same member countries is expected to be signed soon.*

**GENERAL OBJECTIVE**

*To strengthen the capacity for and quality of agricultural research in the participating countries and improve production and productivity by facilitating active cooperation among their national agricultural research institutions.*

**SPECIFIC OBJECTIVE**

*To institutionalize mechanisms for technical cooperation among the participating countries with a view to sharing technology and resources available for research on pulses, corn, potatoes, and edible oilseeds.*

**ACTIVITIES**

- a. *Meetings of Steering Committee*
- b. *Reciprocal technical cooperation*
- c. *Advisory services*
- d. *Training*
- e. *Institutional support*

**AREAS OF ACTION**

*The program consists of four sub-programs:*

- a. *Pulses (beans, broadbeans, peas and lentils)*
- b. *Corn*
- c. *Potatoes*
- d. *Edible oilseeds (soybeans, African palm, sesame, sunflower and peanut).*

*The second stage will include three new areas of work:*

- a. Soil management and conservation*
- b. Dual-purpose livestock systems and pastures*
- c. Crops and livestock of the high Andes.*

*A new, specific component will be set up to deal with the organization and planning of research and technology transfer.*

## **SUMMARY OF ACHIEVEMENTS AND RESULTS**

*Between April 1987 and December 1989, 282 (92%) of the 308 events scheduled under the three-year plan took place, involving 1,114 professionals from the Andean subregion. The 282 events were distributed as follows:*

- a. Regular (17) and special (1) meetings of the Steering Committee*
- b. Technical coordination meetings (15)*
- c. Technical seminars (13)*
- d. Exchanges of professionals (69)*
- e. Advisory services by international centers (29)*
- f. Advisory services by national specialists (38)*
- g. Short-term international consultancies (11)*
- h. Short courses (4)*
- i. In-service training activities (42)*
- j. Scholarships (33)*
- k. Research projects initiated*

## **STRUCTURE**

**Steering Committee:** *Composed of the directors general of the national research and technology transfer institutions of the Andean countries.*

**Technical Team:** *Composed of the director, international coordinators, associates of the international centers and the national coordinators of the sub-programs; the international specialist and the associates in technology transfer and communications.*

## **PARTICIPATING INSTITUTIONS**

### *National Institutions*

*Bolivian Agricultural Technology Institute - IBTA (Bolivia)*

*Colombian Agricultural Institute -ICA (Colombia)*

*National Agricultural Research Institute -INIAP (Ecuador)*

*National Agricultural and Agroindustrial Research Institute -  
INIAA (Peru)*

*National Agricultural Research Fund - FONAIAP (Venezuela)*

*International Centers and Organizations*

*International Center for Agricultural Research (CIAT)*

*International Maize and Wheat Improvement Center (CIMMYT)*

*International Potato Center (CIP)*

*Board of the Cartagena Agreement (JUNTA)*

**FINANCIAL RESOURCES AND DURATION OF THE PROJECT**

*Overall Budget: US\$3,800,000*

*1990 Budget: US\$ 742,499*

*Beginning: March 1986*

*Ending: December 1990*

# RISPAL

Geographic Coverage:

- Chile
- Costa Rica
- Colombia
- Dominican Republic
- El Salvador
- Guatemala
- Guyana
- Mexico
- Panama
- Peru
- Venezuela



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

**BACKGROUND**

*RISPAL was created to promote, among projects and institutions of the network, the exchange of technology and the development of research methods for animal production systems. The participants in the network are IICA, the International Development Research Centre (IDRC), Winrock International Institute for Agricultural Development, the Peruvian Agricultural Studies and Development Center (member institutions), and projects on production systems in Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guyana, Mexico, Panama, Peru and Venezuela.*

*RISPAL entered its second stage in November 1989, as the result of a new agreement between IICA and IDRC.*

**GENERAL OBJECTIVE**

*To strengthen the technical capabilities of national and regional research organizations in connection with the generation and transfer of animal production systems for small-scale farmers.*

**SPECIFIC OBJECTIVES**

- a. To strengthen the links among national, regional and international institutions, promoting increased coordination and the exchange of information.*
- b. To assess research methodologies that have been developed for animal production systems and further the use of same.*
- c. To evaluate and recommend tested technologies to be transferred to small-scale farmers through local institutions.*
- d. To strengthen local programs and projects, as well as institutions, by providing support and training to their working teams.*

**ACTIVITIES**

- a. Coordination and follow-up*
- b. Development of research methodologies*

- c. *Promotion of research, training and institutional strengthening*
- d. *Dissemination*

#### **AREAS OF ACTION AND MEMBER PROJECTS AND INSTITUTIONS**

*IICA/ICTA/DIGESEPE/USAC/IDRC Project, Guatemala, Dual-Purpose Systems*

*CARDI/IDRC Project, Guyana, Dual Purpose Systems*

*IDIAP/IDRC Project, Panama, Dual Purpose Systems*

*Tocuyo Lowlands Area Project, FONAIAP/DSA-CIRAD, Venezuela, Dual Purpose Systems*

*CENIP/IDRC Project, Dominican Republic, Dual Purpose Systems*

*IVITA/IDRC Project, Peru, Production Systems for the Amazon*

*Catholic University of Chile/IDRC Project, Chile, Milk Production Systems*

*INIFAP/IDRC Project, Mexico, Goat Production Systems*

*MAG/IDRC Project, El Salvador, Native Hog Breeding*

*IVITA/IDRC Project, Peru, South American camelidae*

*INIAA/IDRC Project, Peru, Guinea Pig Production Systems*

*CATIE/IDRC Project, Costa Rica, Forestry-pasture Systems*

*INIAA/IDRC/CIDA Project, Peru, Andean Production Systems*

*ICA/IDRC Project, Colombia, Technology Generation and Transfer*

#### **SUMMARY OF ACHIEVEMENTS AND RESULTS**

- a. *System for consultation and technical support established, based on needs of projects.*
- b. *Research expanded to include the study of macroeconomic and social factors affecting the development of technology.*
- c. *Use of systems approach in livestock research systems generalized, adapted to the specific conditions of each project.*

- d. *Methods used for specific matters such as surveys and nutrition improved.*
- e. *Training provided to researchers through courses, workshops and visits to projects.*
- f. *Project philosophy and methods disseminated to institutions outside the network and to similar organizations.*
- g. *Social scientists increasingly involved in the systems approach to research.*
- h. *Several network projects begun on the research/technology transfer process.*
- i. *General methodology defined for research using the systems approach.*
- j. *Proposal for data analysis system for all phases of the methodology.*
- k. *Technical cooperation agreements signed with RIEPT (CIAT), PROCISUR and ALPA.*

#### **STRUCTURE**

- Board of Directors:** *Composed of two representatives from IDRC, three representatives from member projects, and the Executive Secretary.*
- Executive Secretariat:** *Composed of the Executive Secretary and a technical assistant*
- Network Plenary:** *Composed of one representative from each member project or institution.*

#### **FINANCIAL RESOURCES AND DURATION OF THE PROJECT**

<b>STAGE I:</b>	<i>Total Resources</i>	<i>US\$390,320</i>
<i>Beginning:</i>	<i>May 1986</i>	<i>Ending: October 1989</i>
<b>STAGE II:</b>	<i>Total Resources</i>	<i>US\$503,530</i>
	<i>1990 Budget</i>	<i>US\$129,309</i>
<i>Beginning: November 1989</i>	<i>Ending:</i>	<i>October 1992</i>

# PROMECAFE

Geographic Coverage: Costa Rica  
Dominican Republic  
El Salvador  
Guatemala  
Honduras  
Nicaragua  
Mexico  
Panama





**COOPERATIVE PROGRAM FOR THE PROTECTION AND MODERNIZATION  
OF COFFEE CULTIVATION IN MEXICO, CENTRAL AMERICA  
AND THE DOMINICAN REPUBLIC  
(PROMECAFE)**

**BACKGROUND**

*PROMECAFE was created by an agreement signed in January 1978, and stemmed from a need for the countries to pool their efforts to undertake region-wide plant protection actions in response to the outbreak in the region of coffee diseases such as the berry borer and rust. This cooperative effort also seeks to develop and strengthen actions to improve coffee cultivation as a whole.*

**GENERAL OBJECTIVE**

*To promote agricultural research and the technification of coffee cultivation through regional cooperation, with a view to increasing coffee productivity in the member countries.*

**SPECIFIC OBJECTIVES**

- a. To strengthen the technical and scientific capabilities of the personnel of coffee institutions in each country, equipping them to more effectively attend to technical and training needs.*
- b. To generate information from experiments carried out to effectively combat coffee rust and coffee berry borer, and to detect and control pesticide residues in coffee.*
- c. To evaluate genetic materials for selecting and reproducing high-yield, high-quality rust resistant varieties of coffee.*
- d. To develop methodologies for the generation, adaptation, validation and transfer of appropriate technology for coffee cultivation.*
- e. To create and/or strengthen documentation centers and data banks in order to develop a regional coffee information system.*
- f. To upgrade research infrastructure.*

## **ACTIVITIES**

- a. *Control and epidemiological study of coffee rust.*
- b. *Study and control of the coffee berry borer.*
- c. *Study and control of pesticide residues.*
- d. *Development and reproduction of rust-resistant coffee varieties.*
- e. *Development, adaptation and transfer of appropriate technology.*
- f. *Information systems and data bases.*

## **GEOGRAPHIC COVERAGE**

*Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama.*

## **SUMMARY OF ACHIEVEMENTS AND EFFECTS**

- a. *Development of methods for epidemiological study of coffee rust, available to all member countries.*
- b. *Strengthening of facilities and capabilities for coffee rust research.*
- c. *Dissemination and exchange of information on coffee rust, through publications and technical events.*
- d. *Studies made on the biology of coffee berry borer; exchange and dissemination of information through publications.*
- e. *Upgrading of regional facilities and capabilities for research on coffee berry borer.*
- f. *Studies made on pesticide residues and discussion on and dissemination of results, through international events.*
- g. *Development of high-yield, high-quality varieties that are highly adaptable and resistant to coffee rust and other diseases.*
- h. *Validation tests carried out under different conditions.*
- i. *Coffee information systems and data bases set up.*

- j. *Methodology designed and implemented for transferring modern technology to small-scale farmers.*
- k. *Training offered to more than 4,000 technical experts and farmers on different aspects of interest to the program.*

## **STRUCTURE**

**Advisory Board:** *The Board orients Program actions and the project chief executes them; the Board is composed of representatives from participating entities and agencies.*

## **PARTICIPATING INSTITUTIONS**

### At the country level:

*Secretariat of Agriculture and Water Resources, Mexican Coffee Institute (Mexico)*

*Ministry of Agriculture, National Coffee Association (Guatemala)*

*Ministry of Agriculture and Livestock, Salvadoran Coffee Company (El Salvador)*

*Secretariat of Natural Resources, Honduran Coffee Institute (Honduras)*

*Ministry of Agriculture and Livestock (Costa Rica)*

*Ministry of Agricultural Development, National Coffee Growers Association (Panama)*

*Secretariat of State for Agriculture (Dominican Republic)*

*Ministry of Agricultural Development and Agrarian Reform (Nicaragua)*

### At the regional level, the following organizations collaborate with PROMECAFE:

*Tropical Agriculture Research and Training Center (CATIE)*

*International Regional Organization for Agricultural Health (OIRSA)*

*Regional Office for Central American Programs of the United States Agency for International Development (USAID/ROCAP)*

*Central American Research and Industrial Technology Institute (ICAITI), Guatemala*

*At the extra-regional level, the following organizations collaborate with PROMECAFE:*

*Center for International Cooperation in Agricultural Research for Development (CIRAD)*

*Oeiras International Center on Coffee Rust, Portugal (CIFC)*

*Federal University of Vicosa, Brazil (UFV)*

#### **FINANCIAL RESOURCES AND DURATION OF THE PROGRAM**

*Since 1978, PROMECAFE has been operating with a general budget of approximately US\$8,700,000.*

*1990 Budget: US\$ 1,371,794.00*

*Beginning: January 1978 Ending: January 1992*

# PROCACAO

Geographic Coverage:

- Belize
- Costa Rica
- Dominican Republic
- El Salvador
- Guatemala
- Honduras
- Panama



**REGIONAL NETWORK FOR CACAO TECHNOLOGY  
GENERATION AND TRANSFER  
(PROCACAO)**

**BACKGROUND**

*The Regional Network for Cacao Technology Generation and Transfer, PROCACAO, was created through an agreement signed September 28, 1987, by the Inter-American Institute for Cooperation on Agriculture (IICA) and the Government of the United States, represented by the Regional Office for Central American Programs (ROCAP) of the Agency for International Development (AID).*

*Pursuant to the agreement, the activities of the network are jointly executed by IICA, the Tropical Agriculture Research and Training Center (CATIE), the Honduran Agricultural Research Foundation (FHIA) and the countries of the network. Recently, a secondary agreement was signed with Hershey Foods Corporation, by which Hershey has agreed to participate in research activities carried out within the framework of the network.*

**GENERAL OBJECTIVES**

*To increase cocoa production and the income of small- and medium-scale cocoa farmers in Central America.*

**SPECIFIC OBJECTIVES**

- a. To improve the quality of and access to the results of research on cocoa in Central America, Panama and the Dominican Republic, by establishing a regional network for cocoa technology generation and transfer.*
- b. To institutionalize, at the regional level, a system for coordinating and supporting research and technology transfer on cocoa so that national programs can make better use of improved production technology and extension services developed through the project.*

**ACTIVITIES**

- a. Management of the network*
- b. Research*
- c. Training and technology transfer*

## **SUMMARY OF ACHIEVEMENTS AND EFFECTS**

### **a. Management of the network**

- *The network was established, put into operation and Belize, Costa Rica, El Salvador, Guatemala, Honduras, and Panama officially joined the network. During 1989, the participation of the Dominican Republic was negotiated and it is expected to join in 1990.*
- *A technological inventory was made of cocoa cultivation within the scope of the network.*
- *Regional seminars were held on: post-harvest management and improved quality of cocoa; management of improved cocoa germplasm; and the economics of cocoa production and marketing.*
- *Four national advisory groups were set up (Belize, Costa Rica, Guatemala and Honduras) and possible members of Regional Advisory Committee were identified.*
- *Activities undertaken to prepare diagnostic studies on cocoa production in Belize, Costa Rica, Guatemala and Honduras.*
- *Data base on cocoa set up and put into operation.*

### **b. Research**

*Trials were carried out to improve germplasm, cultivation practices and disease control. The 1990 working plan also includes activities related to post-harvest management practices.*

#### **1. Disease-resistant germplasm evaluated and distributed to the countries.**

- *Regional tests conducted in Belize, Costa Rica, El Salvador, Guatemala and Honduras to evaluate the adaptation of promising hybrids to different ecological conditions of the member countries and the resistance of hybrids to diseases such as black pod, moniliasis and *ceratocystis fimbriata*.*
- *Technical and financial support provided to the private Panamanian sector for eradication of witch's broom disease.*
- *Technical assistance from CATIE channeled through PROCACAO to cocoa producers in the Alto Beni region of Bolivia where approximately 10,000 hectares of cocoa are cultivated.*

**2. Research carried out on cultivation practices**

- *Seven trials on cultivation practices begun at FHIA*
- *Demonstration/validation plots set up for cultivation practices.*

**c. Training and Technology Transfer**

*Support provided for training human resources on cocoa production practices and the technology transfer strategy launched in the countries of the network.*

- *Seventy-three training events held, attended by 702 participants.*
- *Video prepared on cocoa production, which will be used with manuals for technical personnel and farmers. Booklets published on diseases of cocoa and on post-harvest management practices.*

**STRUCTURE**

*Executive committee: Composed of representatives from the countries and from participating institutions.*

*Technical committee: Composed of representatives from participating institutions (IICA, CATIE, FHIA, FUPAD and Hershey).*

*Coordination Office: Composed of the coordinator of the network, a specialist in institutional development and a technical-administrative assistant.*

**PARTICIPATING INSTITUTIONS**

*Agricultural Sciences and Technology Institute (ICTA) and the General Directorate of Extension and Agricultural Services - DIGESA (Guatemala)*

*Ministry of Agriculture (Belize)*

*Center for Agricultural Technology - CENTA (El Salvador)*

*Ministry of Natural Resources - MRN (Honduras)*

*Ministry of Agriculture and Livestock - MAG (Costa Rica)*

*Agricultural Research Institute (Panama)*



*Secretariat of State for Agriculture - SEA (Dominican Republic)*

***FINANCIAL RESOURCES AND DURATION OF THE PROJECT***

<i>Overall Budget (5 years)</i>	<i>US\$3,965,000</i>
<i>1990 Budget</i>	<i>US\$ 947,896</i>

*Beginning: September 1987*      *Ending: December 1992*

# BASIC GRAINS

Geographic Coverage:

- Costa Rica
- El Salvador
- Guatemala
- Honduras
- Nicaragua
- Panama



## **PROGRAM TO STRENGTHEN AGRICULTURAL RESEARCH ON BASIC GRAINS IN CENTRAL AMERICA**

### **BACKGROUND**

*Agricultural research is relatively weak in the region due to financial and scientific limitations, and this has had varying effects on the different countries. As a result, there is limited supply of agricultural technologies for small-scale farmers, and a gap between small farmers needs and the priorities of research systems. The European Economic Community (EEC) and IICA, through an agreement signed in April 1989, are providing support to the countries of the Central American Isthmus in their efforts to strengthen agricultural research as a means of improving food security. This initiative is geared primarily to upgrading research efficiency and capabilities with regard to basic grains.*

### **GENERAL OBJECTIVE**

*To improve the efficiency of the institutions of the countries of the Central American Isthmus involved in agricultural research and technology transfer, by strengthening activities related to basic grains and focusing on solutions for small-scale farmers.*

### **SPECIFIC OBJECTIVES**

- a. *To support integration among research institutions of the region in order to expand planning and coordination of their efforts. (Specific goal of subprogram 1)*
- b. *To help implement mechanisms and linkages for exchange among research systems and agricultural extension services, at the regional level and in the countries in particular. (Specific goal of subprogram 2)*
- c. *To promote agricultural research by carrying out field work and generating appropriate technology for problems faced by grain producers. (Specific goal of subprogram 3)*

### **AREAS OF ACTION**

- SUBPROGRAM 1:** *To coordinate and streamline research activities on basic grains in the Central American Isthmus.*
- SUBPROGRAM 2:** *To strengthen linkages between research systems and agricultural technology transfer systems.*
- SUBPROGRAM 3:** *To promote agricultural research, conduct experiments and transfer technology for small-scale grain producers in nine zones of the Isthmus.*

**GEOGRAPHIC COVERAGE:** *Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama*

**PRODUCTS COVERED:** *Corn, beans, rice and sorghum*

### **SUMMARY OF EXPECTED ACHIEVEMENTS AND RESULTS**

a. *For the Central American region as a whole:*

*Planning and coordination mechanisms established for agricultural research and technology transfer, with a view to institutionalizing same.*

*Closer ties forged between research systems and technology transfer systems.*

*Research centers upgraded with the creation of teams of researchers and technicians trained in agricultural research and data analysis, and in new working methods based on the real situation faced by small-scale farmers.*

*Appropriate technologies generated for small-scale farmers, at least in reference to agricultural techniques available for basic grains (practical know-how and theoretical knowledge), the current lack of which hinders the work of agronomists and researchers who want to improve current production levels.*

b. *For the specific working zones*

*Research findings will be used to promote new development projects and to upgrade institutions that provide extension and support services to small-scale farmers in the target zones.*

### **STRUCTURE**

**Ad Hoc Committee:** *Composed of the six vice ministers of agriculture of the Regional Council for Agricultural Cooperation in Central America, Mexico, Panama and the Dominican Republic (CORECA)*

**Executing Unit:** *Composed of Central American and European specialists*

#### **Technical Coordination Bodies**

**Regional Committee for Research Coordination:**

*Composed of the six directors or managers of the national research institutions of the Isthmus, one representative of the scientific council and one representative from IICA.*

***Regional Committee on Research-Extension Linkages:***

*Composed of the six national research directors and the six agricultural extension systems directors and one representative from IICA.*

***Scientific Council:***

*Composed of representations from international organizations and specialized agencies from the region.*

***National Research-Extension Linkage Councils:***

*Composed of researchers, extension officers and representatives of small-scale farmers.*

**PARTICIPATING INSTITUTIONS**

*Ministry of Agriculture and Livestock - MAG (Costa Rica)*

*National Agricultural Technology Center - CENTA (El Salvador)*

*Secretariat of Natural Resources - SRN (Honduras)*

*Ministry of Agricultural Development - MIDA (Panama)*

*Ministry of Agricultural Development and Agrarian Reform - MIDINRA (Nicaragua)*

*Agricultural Sciences and Technology Institute - ICTA (Guatemala)*

**INTERNATIONAL ORGANIZATIONS**

*International Center for Tropical Agriculture (CIAT)*

*International Maize and Wheat Improvement Center (CIMMYT)*

*Nutrition Institute of Central America and Panama (INCAP)*

*Tropical Agriculture Research and Training Center (CATIE)*

**FINANCIAL RESOURCES AND DURATION OF THE PROJECT**

*Total project resources* *US\$17,101,700*

*Beginning: April 1989* *Ending: January 1995*

# PROCITROPICOS

Geographic Coverage:

Bolivia  
Brazil  
Colombia  
Ecuador  
Guyana  
Peru  
Suriname  
Venezuela



**COOPERATIVE PROGRAM ON RESEARCH AND TECHNOLOGY TRANSFER  
FOR THE SOUTH AMERICAN TROPICS  
(PROCITROPICOS)**

**BACKGROUND**

*The interest in developing the South American tropics within the framework of the inter-American system dates back to 1969, when IICA's Board of Directors issued a mandate for the Institute to create a cooperative program, which was launched in 1971, headquartered in Brazil. In 1975, the program's guidelines were changed, and it began its second stage by stepping up its actions in the countries, and establishing institutional ties with the Amazon Cooperation Treaty, a mechanism created by the countries in July 1978 to promote regional integration.*

*In response to a mandate of the Inter-American Board of Agriculture (IABA), meeting in Jamaica in 1983, IICA reformulated the IICA-Tropicos project with a view to further systematizing and generating scientific knowledge on the tropical region. This initiative occurred at a time when the governments and technical-scientific communities of the countries of the region, and beyond it, were focusing their attention on environmental and socioeconomic problems. It had become evident that there was a need to establish regional cooperation and integration mechanisms with the objective of fostering orderly and sustainable development in agricultural, livestock and forestry activities, without compromising the ecological balance at the global level.*

**GENERAL OBJECTIVE**

*To strengthen the technical capabilities of participating countries, through active cooperation among national research, transfer, development, training and other institutions involved in the development of the tropical regions, including the plains, foothills and humid tropics of the Amazon, in order to promote sound agricultural production in the region, prevent degradation of the environment and, at the same time, provide a real alternative for economic reactivation during the current crisis.*

**SPECIFIC OBJECTIVES**

- a. *To institutionalize reciprocal technical cooperation mechanisms among participating countries in order to maximize the utilization of technology and resources available for the development of the tropical region.*
- b. *To activate the technology generation and transfer process, improve production and provide training in the tropical region, in order to stimulate economic growth consistent with environmental conservation.*
- c. *To upgrade scientific and technological capabilities and to transfer technology through training programs for personnel responsible for the technological development of the region.*

- d. *To boost the countries' efforts to develop and exchange technologies and experiences, with a view to selecting valid and appropriate technologies for transfer to farmers.*
- e. *To promote endogenous development in the region so that the agricultural sector will provide the basis for the growth of industries related to inputs and goods for production, decrease dependence on imports and thus generate and save foreign exchange at both the national and regional levels.*
- f. *To bring together the countries in matters of common interest and to promote the shared, coordinated use and development of infrastructure for the proposed actions.*
- g. *To help the relatively lesser developed countries achieve their food production objectives as the basic means for achieving economic and social growth.*
- h. *To boost regional integration through the marketing of products, raw materials and inputs.*
- i. *To promote greater coordination and use of research findings among national research systems and inter-national or regional research centers with a stake in the tropical region.*

#### **ACTIVITIES**

- a. *Diagnostic studies*
- b. *Research*
- c. *Technology transfer*
- d. *Training*
- e. *Publications*

#### **AREAS OF ACTION**

##### *Initial projects*

- a. *Integrated soil management*
- b. *Sustained production systems*
- c. *Management and conservation of genetic resources*

#### **GEOGRAPHIC AND ECOLOGICAL COVERAGE**

- a. *Geographic coverage: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela.*



- b. *Ecological coverage: Humid tropics or Amazon Basin, plains and foothills.*

### **SUMMARY OF EXPECTED RESULTS**

*The Program is expected to have an impact on national institutions by improving their technical and operating capacity, and expanding the pool of knowledge available for the execution of planning and research activities.*

*The Program also envisages increasing the number of technicians specialized in disciplines related to its objectives; improving the physical infrastructure of the different national agencies and equipping them to participate efficiently in developing Program activities; and improving mechanisms and skills for securing external resources.*

### **STRUCTURE**

*Steering Committee: Composed of regular officials from participating national institutions.*

*Advisory Committee in Support of the Executive Secretary:*

*Composed of the highest-ranking national authorities responsible for the generation, transfer and development of technology in the tropical regions of the participating countries.*

*An Executive Secretary, a technical assistant and administrative support personnel*

*International project coordinators*

*National teams: Composed of national inter-institutional coordination committees.*

### **PARTICIPATING INSTITUTIONS**

#### *Primary national member organizations:*

*Secretariat of Natural Resources and the Environment, of the Ministry of Campesino and Agricultural Affairs -MACA (Bolivia)*

*Brazilian Agricultural Research Agency - Embrapa (Brazil)*

*Colombian Agricultural Institute - ICA (Colombia)*

*National Agricultural Research Institute - INIAP (Ecuador)*

*Ministry of Agriculture (Guyana)*

*National Institute of Agricultural and Agroindustrial Research - INIAA (Peru)*  
*Ministry of Agriculture, Livestock and Fisheries (Suriname)*

*National Agricultural and Livestock Research Fund - FONAIAP (Venezuela)*

*Other international and regional research, technical and financial assistance centers and agencies:*

*International Center for Tropical Agriculture (CIAT)*

*International Potato Center (CIP)*

*Caribbean Agricultural Research and Development Institute (CARDI)*

*Tropical Agriculture Research and Training Center (CATIE)*

**ESTIMATED COST AND DURATION OF THE PROJECT**

**US\$31,261,000**      *for an estimated 10 years.*

# PROFRUTAS

Geographic Coverage: Costa Rica  
Dominican Republic  
El Salvador  
Guatemala  
Honduras  
Nicaragua  
Panama



**TECHNOLOGY GENERATION AND TRANSFER NETWORK  
ON TROPICAL FRUITS  
(PROFRUTAS)**

**BACKGROUND**

*Although the countries of Central America and the Dominican Republic have long depended on a few export commodities, they have good possibilities and clear advantages for producing and exporting tropical fruits to North American and European markets. Nevertheless, a major cooperative undertaking is needed if serious short-comings and limitations on production and agroindustrial technology are to be overcome. IICA designed this network with a view to improving integration in this geographical area related to tropical fruit production and marketing.*

**GENERAL OBJECTIVE**

*To help improve production and productivity of tropical fruits having strong export potential, by upgrading the level of related technology in the participating countries.*

**SPECIFIC OBJECTIVE**

*To create a long-term technological base in support of the production, processing and marketing of tropical fruits.*

**ACTIVITIES**

*Management of the network  
Generation and testing of technology  
Data base for institutional support  
Funding of technological innovations*

**GEOGRAPHIC COVERAGE OF THE NETWORK**

*Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama.*

**PRODUCTS COVERED**

- a. Citrus fruits: oranges, grapefruits, lemons*
- b. Mango*
- c. Avocado*
- d. Pawpaw*
- e. Soursop*
- f. Passion fruit*
- g. Cashew*

## **SUMMARY OF EXPECTED ACHIEVEMENTS AND RESULTS**

- a. *Planning and organizational structure at the regional and national levels, with improved capacity for technology generation and transfer.*
- b. *Technological base for the cultivation of fruits covered by the network.*
- c. *Appropriate and efficient use of extension service and crop related technologies improved by the network.*
- d. *Integration of research and extension services.*
- e. *Investment projects for agribusinesses using local fruit.*
- f. *Active participation of private sector in the fruit industry.*

## **STRUCTURE**

**Steering Committee:** *Composed of one representative per country, the director of the Central American Chamber of Commerce, one representative from the donor agencies and one representative from IICA.*

**Regional Technical-Scientific Committee:** *Composed of one representative from each National Technical Committee, one representative from CATIE and one representative from IICA.*

**National Technical Committee:** *An inter-institutional and inter-disciplinary committee*

**General Coordination:** *IICA is in charge of overall management, through a general coordinator.*

## **PARTICIPATING INSTITUTIONS**

*National public institutions  
Research institutions and/or foundations and universities  
Private institutions or groups  
CATIE*

## **ESTIMATED COST AND DURATION OF THE PROJECT**

*US\$5,745,180, for an estimated five (5) years.*