



SIMON BOLIVAR FUND

1980

ANNUAL REPORT 1978

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This One



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Introduction



Introduction



Dr. José Emilio G. Araujo, Director General of IICA.

As one of my responsibilities as Director General of the Inter-American Institute of Agricultural Sciences, and in compliance with Article 23 (d) of the Fund regulations, I am pleased to submit the Annual Report of activities financed by the Simon Bolivar Fund for the period 1 July 1977 through 30 June 1978.

I am well pleased to be able to report that significant progress has been made on Fund activities during this period, in benefit of almost all the member countries and, in three cases, projects have been completed and the pertinent final reports handed in to the respective national authorities.

I would like to take this opportunity to express my appreciation to the Governments of Venezuela, Honduras, Haiti, Panama, Chile, Ecuador and Jamaica for their contributions. The campaign to obtain support from the other member countries will be continued and stepped up.

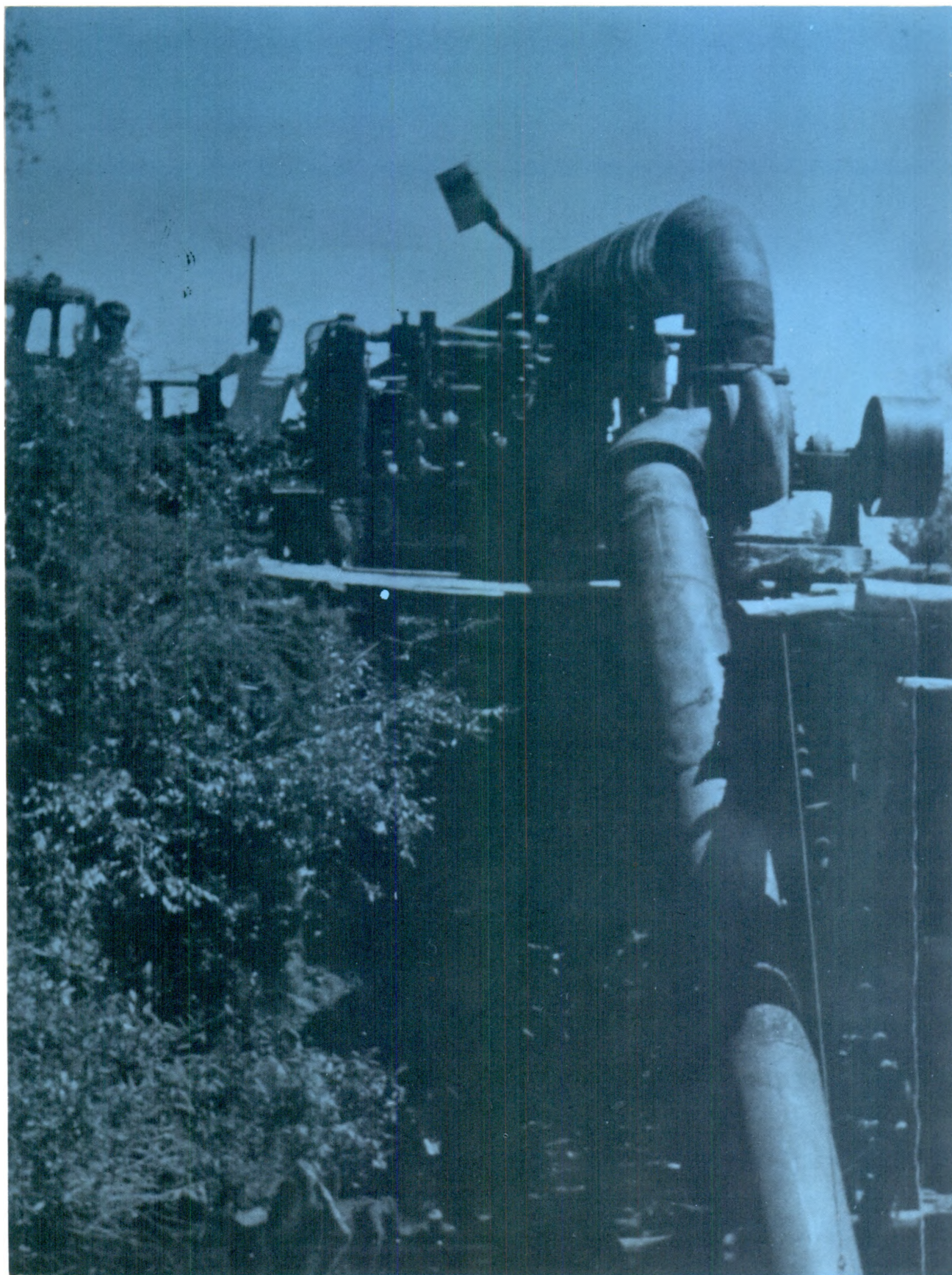
During the period covered by this report, there were 21 projects (underway or completed) in 19 countries and a multinational project for Central America. Thirty-seven highly qualified technicians specialized in the various areas of interest needed were employed for Fund projects. All these specialists, with the exception

of one, are from Latin America or the Caribbean. The projects represent an annual budget of two million two hundred thousand dollars and generated six million dollars in counterpart contribution from the countries—cash or kind—for their respective projects.

Most of these projects run for an average of three years and have benefited 68 agencies of the agricultural sector of the member countries. In addition, approximately 1,100 national functionaries have been trained in the different fields of specialization, and about 10,000 farming families will also benefit from these Fund projects. Moreover, there are four new projects being prepared for the new member countries of IICA; it is expected that they will get underway during the next fiscal year.

As stated in my last report, the implementation of Fund projects has allowed IICA to expand its activities in benefit of the member countries. As a result though, IICA has had to concentrate on aspects related to the employment of high-quality temporary staff, for the planning and supervision of projects, and in providing adequate support in technical-administrative areas.

These projects have also provided the opportunity to test, together with the other countries, an alter-



native form of action: IICA's so-called participative technical cooperation. The essence of this type of participative technical cooperation is the institutionalization of positive changes in the countries, their organization and technical personnel, so that they may formulate, plan and implement their own rural development processes more efficiently and effectively. This type of cooperation is being used in some countries to foster integrated rural development, conceived as a participative, dynamic, self-sufficient and programmatic process.

It must be participative so the beneficiaries of the process can make their own decisions, implement them and orient them; dynamic, with rapid results and if possible on a massive scale; progressively self-sufficient on the basis of the farmer's own efforts, and programmatic, in the sense of not being linked to preconceived models, but rather maintaining a level of flexibility in order to assure an adequate orientation of the participants in accordance with existing possibilities and opportunities.

The areas covered by Simon Bolivar Fund projects, within the framework of IICA's Lines of Action and programs, are described below:

Agricultural Production and Productivity

This program back-stops national endeavors to increase production of basic foods through the provision of technical cooperation to agencies working on increasing agricultural production and productivity. Special attention is being given to those actions directed toward small farmers.

There are projects underway, within this area, in Bolivia, Peru, Venezuela, Central America, Mexico, Haiti, Guyana and Jamaica.

Agricultural Marketing

This program supports activities oriented toward facilitating trade transactions and making economic decisions to improve the efficiency of the agricultural product and input distribution. There is a project in this area underway in Argentina and one is being prepared for Colombia.

Regional Rural Development

IICA cooperation in this area is provided through a Fund program to design and implement research studies on regional resources and economic and social studies on the optimum utilization of natural resources and marketing possibilities.

This type of cooperation also implies the design and structuring of organizations, and the programming and implementation of regional rural development projects.

There are projects in this area in Ecuador, Honduras, Haiti, Uruguay, Brazil and Chile.

"Campesino" Organization

In this program, IICA is working on strengthening national institutions responsible for defining and implementing "campesino" organization policies, from an economic, social and educational viewpoint. Assistance is also provided on research, planning, implementation and evaluation aspects, as related to "campesino" organization actions.

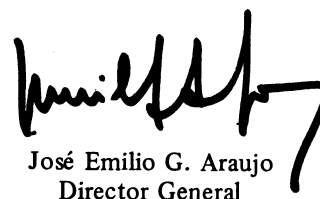
There are Fund projects within this area in Panama and Paraguay.

Agricultural Planning

IICA is cooperating with all the countries on structuring sectoral and national planning offices and on developing planning methodologies adapted to the rural conditions in each country. Moreover, cooperation is also provided on the design and organization of training programs to form inter-disciplinary teams for rural planning purposes, including the identification, preparation and evaluation of agricultural projects in Costa Rica, Nicaragua and the Dominican Republic.

Fund projects are implemented on the basis of IICA's organizational structure, that is, through the Institute's operative units established in almost all member countries. These units receive backing from the Simon Bolivar Fund Office which is an integral unit of the Associate Deputy Director General's Bureau for Operations, as well as from the other specialized technical and administrative units at Headquarters.

I firmly believe that IICA has been able to accomplish most of its objectives: soon the Institute will be working in cooperation with all the member countries. I feel that IICA has been able to respond adequately to the confidence expressed by the countries in its technical cooperation actions. However, I beg you to remember that the Fund needs to be consolidated financially so as to assure sustained progress and in order to be able to contribute to the development and transformation of the agricultural sector of Latin America and the Caribbean.

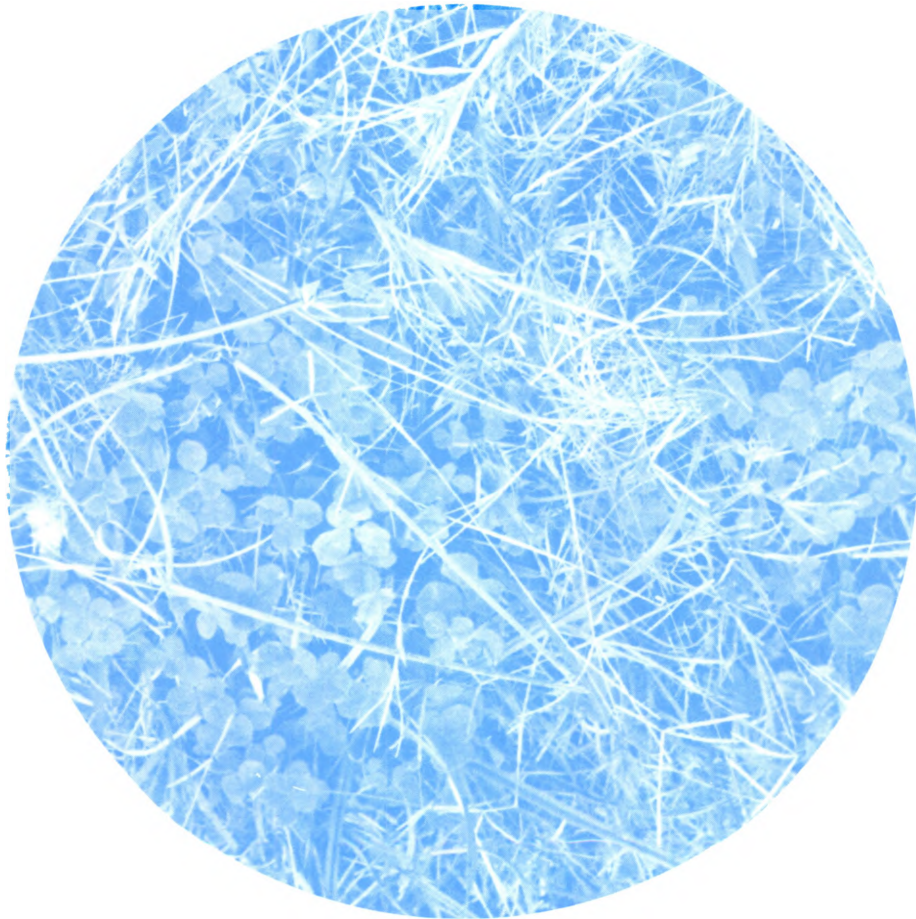


José Emilio G. Araujo
Director General

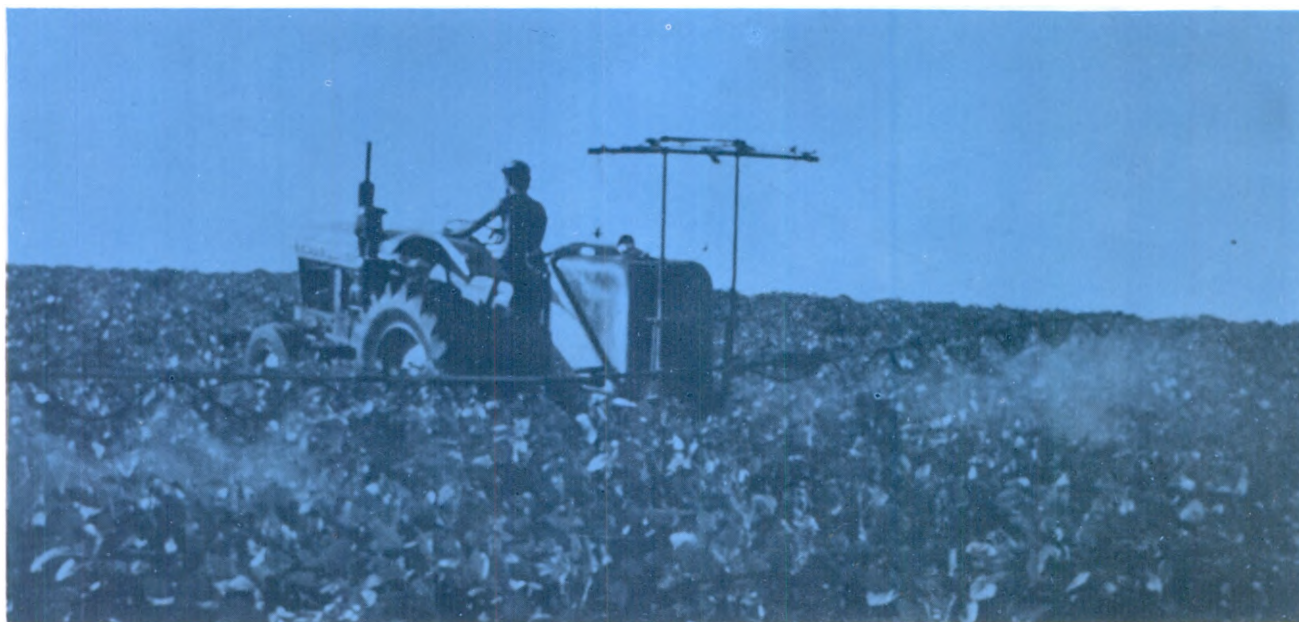
Project Summary By Countries



Argentina



Argentina



1. Project title

Pilot Project of the Integrated Agroindustrial Development of Irrigation Areas – the Río Colorado Bonaerense Valley.

2. Background information and problem definition

The incorporation of marginal zones into the production process and the expansion of agricultural frontiers are amongst the main objectives of national agricultural policy in Argentina. Irrigation projects in arid zones are contributing to the attainment of these objectives, as there are already a number of projects underway in different planning or implementation stages. It has been estimated that at present, there are approximately 1,400,000 has. of land with irrigation facilities.

However, despite the known appreciable surface hydro potential of the country, each time there is talk of irrigation projects, the question is raised as to the advisability of incorporating new areas into traditional irrigation production systems, since there are a number of problems in marketing the produce. In effect, national markets and traditional export markets are frequently saturated by an excess of certain products.

The CORFO-Río Colorado project with jurisdiction extending into the Lower Valley of the River, is no exception to the above rule, since it is a part of the irrigated area being developed in a somewhat spontaneous and unsystematic manner.

CORFO is an autarchic and decentralized entity of the government of the province of Buenos Aires. In 1967, CORFO was assigned the responsibilities of fostering the integral development of the delta formed in the Lower Valley of the Río Colorado in the south of Buenos Aires province.

Despite its enormous productive potential, CORFO is facing a stagnating economy which translates into relatively low income levels and the persistent emigration of the active segments of the population.

This stagnation is the result of difficulties in selling the products due mainly to the markedly seasonal nature of the production process, and the fact that the zone must compete with other producing zones. Moreover, there is the added disadvantage of high transportation costs. The small and medium-sized farmers are also lacking in the capability of marketing their products.



3. General and specific objectives

The general objective of this project is to assist CORFO to attain its objective of fostering the integral development of the zone, in the following manner:

- Cooperating on the institutional strengthening of CORFO-Río Colorado through the design and implementation of an integrated production, marketing and agroindustrial development system, to be set up on the basis of existing marketing opportunities and constraints.
- Cooperate on the identification, formulation and implementation of marketing and agroindustrial development projects, within the integral development project of CORFO.
- Test a development model with agroindustries that include producer participation.

4. Place and duration of project

Project actions will be concentrated in the zone of jurisdiction of the CORFO-Río Colorado area, and will be working out of Pedro Luro in the south of Buenos Aires province.

5. Starting date

It has been calculated that project activities will begin in February 1978.

6. Beneficiaries

The main, direct beneficiary of IICA's actions on this project will be CORFO-Río Colorado. It is expected that its institutional capability to systematically analyze marketing and market problems will have increased substantially by the end of the project. In addition, it is expected that the farmers will have been organized for marketing and agroindustrial development purposes. CORFO will also have a well trained technical team by the end of the project, to carry out the specific functions involved, and will have defined marketing policies and strategies as appropriate to attain the main objective of fostering the integral development of the zone.

Other beneficiaries will be the zone's producers, with higher incomes, including the agroindustrial enterprises; INTA and the State Secretariat of Agriculture of Buenos Aires province, whose zone technicians will have been trained in providing extension services in marketing. The State Secretariat of Agriculture and

Animal Husbandry of the country will also profit from the experience acquired in this area, and will be able to transfer this knowledge to other irrigation zones of the country.

7. Costs

Project costs for the first year have been estimated at US\$ 232,500 of which the country will be contributing with a sum equivalent to US\$ 129,000 and the Simon Bolivar Fund will contribute US\$ 103,500.

8. Participant organizations

The agency to work directly with IICA on this project is CORFO-Río Colorado, which will also coordinate the actions of other agencies in the zone, that may participate on the project.

9. Final product

Expected achievements by the end of the project, are:

- To have a functioning marketing unit in CORFO-Río Colorado, based on market studies to be carried out with respect to present and potential production in the zone, and feasibility studies of one or more producer markets or storage centers.
- To assure the integration of production, marketing and agroindustry within the development schemes, based on a clear definition of marketing policies and strategies for the zone.
- To select and set up producer organization models for marketing purposes.
- Trained personnel in CORFO and the extension agency, in marketing research, plant management and operation, and other marketing aspects.
- The preparation and implementation of a Pilot Integrated Agroindustrial Development project in the irrigation zones of the Bonaerense Valley of Río Colorado.

10. Progress achieved

- The pertinent agreement was signed in February 1978.
- Personnel is being recruited for project implementation purposes.

Bolivia





1. Project title

Fostering Milk Production in Tarija.

2. Background information and problem definition

The present consumption of milk in Bolivia is under 10% of the estimated requirements of 150 kg/inhabitant/year. One of the principal objectives of the Five-year Agricultural Plan is a substantial increase in the production and productivity of food, including milk, with the aim of attaining self-sufficiency.

The solution of serious problems in the selection, and management of dairy herds and the supply of cattle feed; as well as marketing, technical assistance, credit and training aspects, amongst others, is essential, if milk production is to be increased to levels that will satisfy population requirements.

There is a need to up-grade the executor capability of the Development and Public Works Committee of Tarija, which is a potential milk-producing zone, and the provision of technical assistance to help overcome existing problems is a timely means to support the implementation of the Milk Production Plan.

Because of these problems, a milk production and marketing feasibility study must be conducted in the Department of Tarija, as indicated in the National Economic and Social Development Plan for 1976-80.

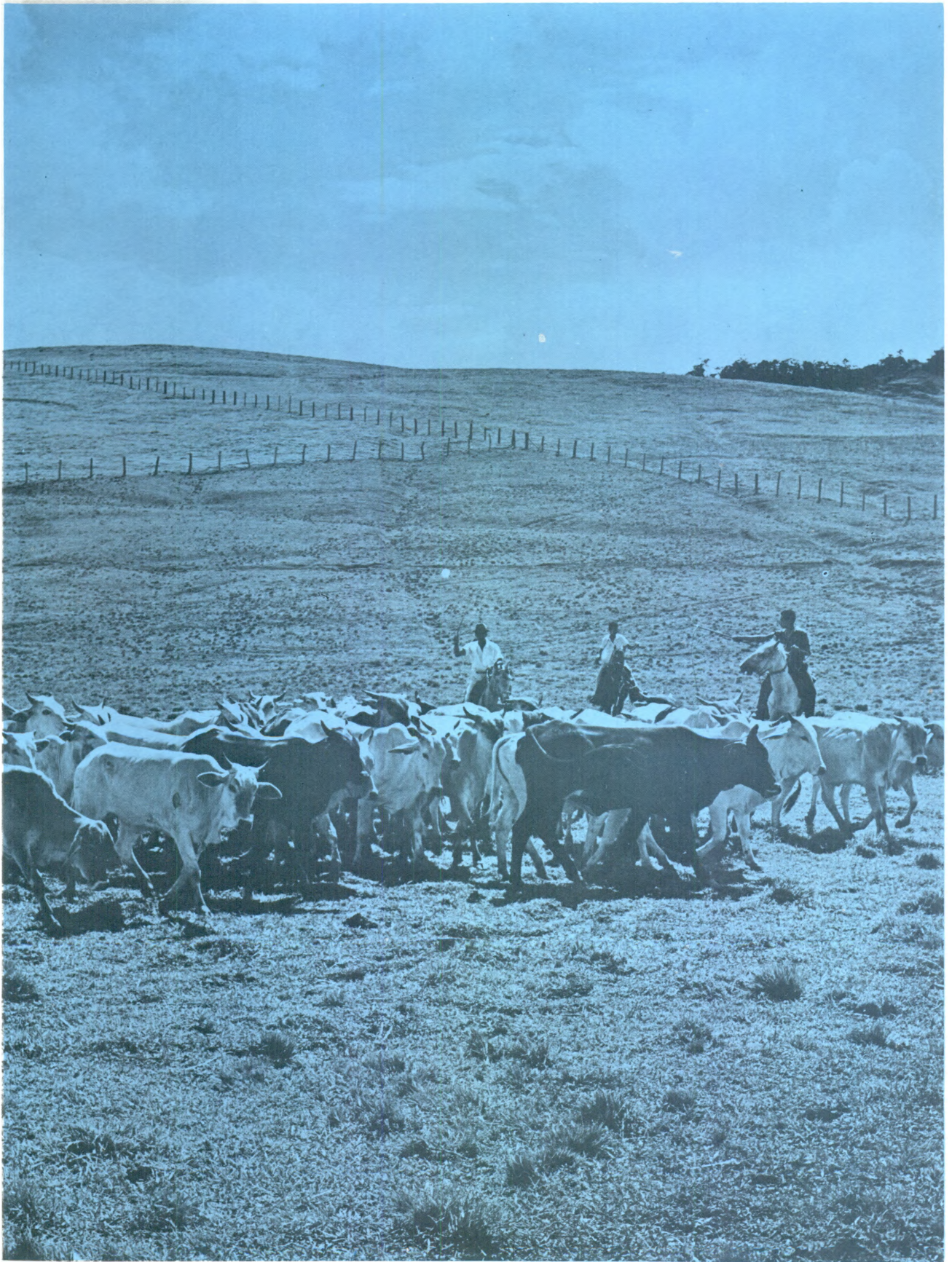
3. General and specific objectives

Collaborate with the Bolivian Corporation to Foster Production (Corporación Boliviana de Fomento – CBF) and the Development and Public Works Committee of Tarija on the formulation of feasibility studies to foster milk production in the Department, and to propose institutional mechanism for project implementation. To this end, IICA will cooperate in the following manner:

- Provide support to the above-mentioned institutions to develop activities oriented towards fostering milk production, emphasizing technical training at the different levels.
- Have ready a “Plan to Foster Milk Production” for the Department of Tarija.

4. Place and duration of the project

This project will encompass the appropriate milk-producing areas of the Department of Tarija. Project duration is one year.



5. Starting date

The project got underway in August 1977.

6. Beneficiaries

The direct beneficiaries of this project will be the Agricultural Department of the Development and Public Works Committee of Tarija (CODETAR), the CBF and the Ministry of Farming and Agricultural Affairs (MACA). These will have the results of a feasibility project and their technicians will be trained in the preparation of milk production development projects. The forage and milk producers of the project zones will also benefit from being incorporated into the production process.

7. Costs

The total cost of the project is US\$ 238,981. The Fund will contribute with US\$ 100,500 and the country with the equivalent of US\$ 138,481.

8 Participant organizations

The following institutions will be working together with IICA on this project: MACA, CBF and the Development and Public Works Committee of Tarija (CODETAR).

9. Final product

CODETAR will have the results of a feasibility study which will facilitate their obtaining necessary financing to implement the project.

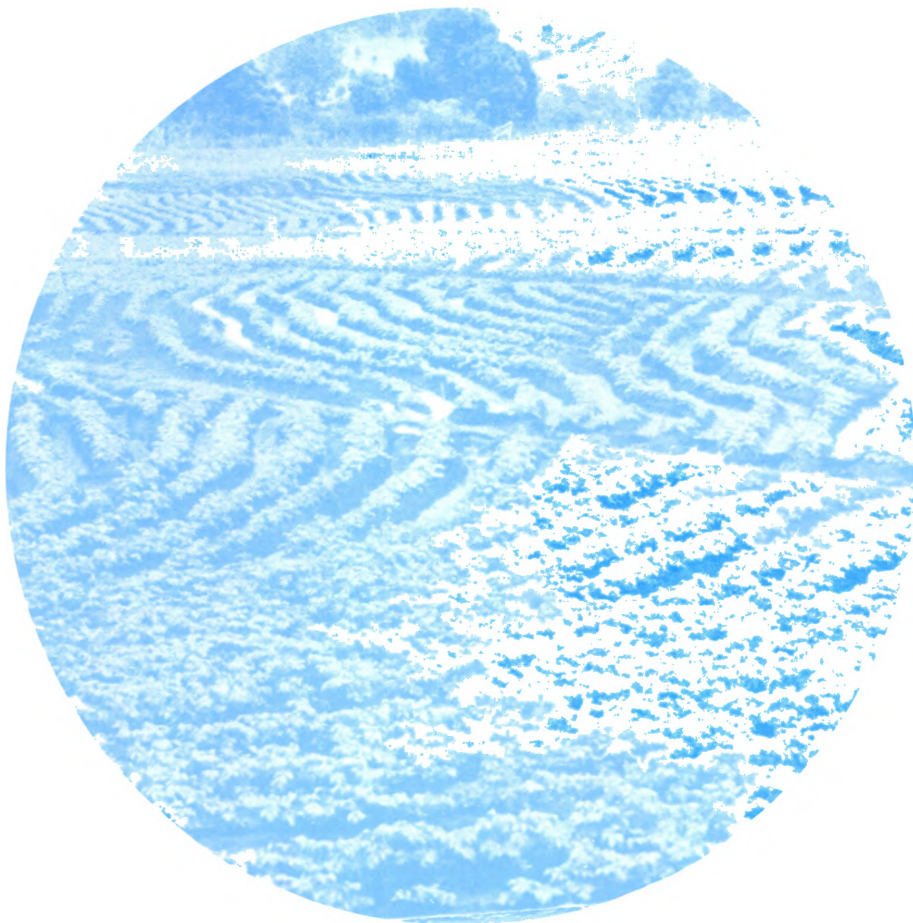
The adequate management capability of institutions involved will have been generated, to assure the proper implementation of the project.

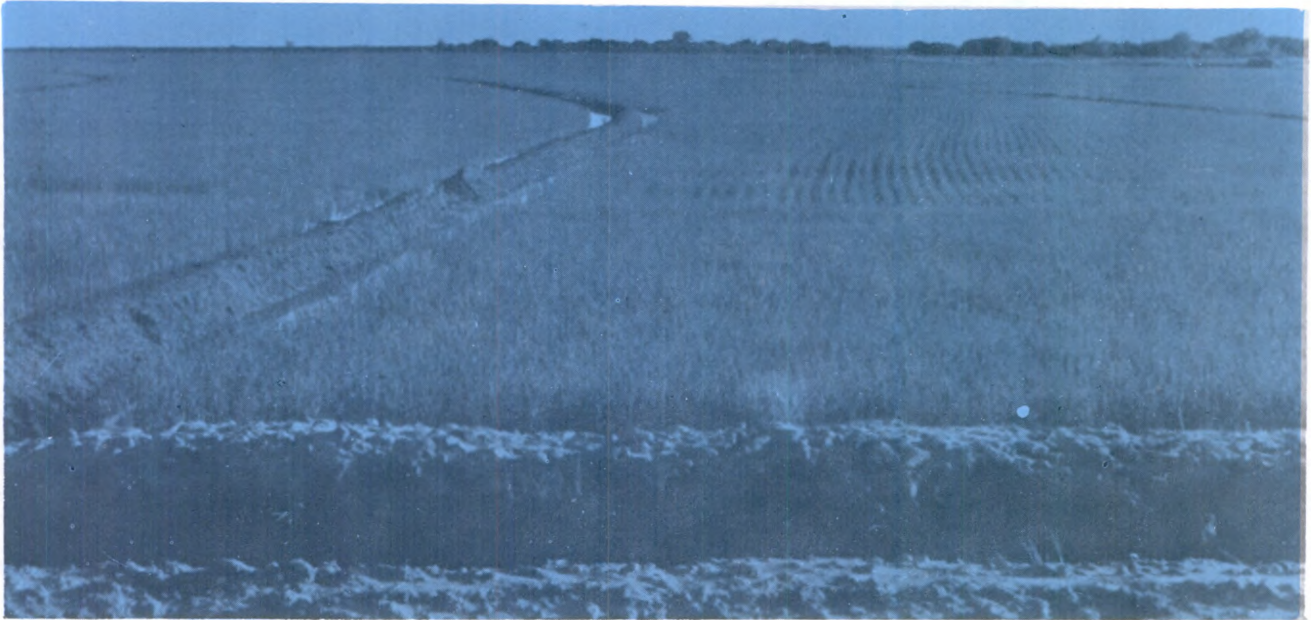
The institutional mechanism for the implementation of the National Milk Plan will have been established.

10. Progress achieved

- It was possible to strengthen institutional coordination aspects through the creation of (and provision of technical support to) a Committee to Foster Dairy Production, an entity comprised of three national agencies working in milk production: MACA, CODETAR and CBF.
- Direct technical assistance was provided 35 small and medium-sized cattlemen in the zone.
- Case studies at the level of production units were prepared, to be used in the implementation of the feasibility project.
- Demonstration forage and pasture lots were established, and the nutritional analysis of these forages set up.
- A set extension texts and materials is in preparation.
- Support was provided the Committee's veterinary units (MACA) in their demonstrations on the control of the main parasites and diseases in cattle in the project area.
- Coordination actions were undertaken with other agencies working in fostering interest in dairy production, such as the local university and the Canasmero School.

Brazil





1. Project title

Provision of Support so as to Increase Production and Productivity in the northeast of Brazil, through the Implementation of Irrigated Areas.

2. Background information and problem definition

The San Francisco Valley in the northeast of Brazil, has approximately 23 million hectares of land suitable for agricultural pursuits. Rainfed agriculture is practiced on about 65 percent of this land, but the remaining 8 million hectares require irrigation to make the most of the area's potential. At present, there is some conflict as to the different possible uses of the water, particularly between electricity and irrigation. Thus, all efforts to expand irrigated areas must be based on a maximum but rational and efficient utilization of available water.

Since the future beneficiaries of the irrigation system are unaware of water use and management techniques, it was decided – in view of the large surface area of the valley – to create a demonstration irrigated area in the San Desiderio Zone. Experience acquired in this area will then be extended to the rest of the valley in a progressive manner.

- Implementation within the area of an organizational structure with the participation of all interested institutions, to serve as an operational model for others to be established in different areas of the valley.
- Establishment of a well organized and planned production model, so as to assure increased cultivated areas under irrigation, the gradual increase in settlers, increased productivity and a more efficient marketing system.

3. General and specific objectives

The general objective is to establish commercial agriculture within the irrigated area, on a highly efficient basis, so as to assure increased production and productivity of food and raw material.

Specific objectives sought are as follows:

- Definition of the initial user organization model, as established by CODEVASF (Development Corporation of the San Francisco Valley) and its adaptation so as to consolidate the Cooperative Enterprise created by the producers.

- Establishment of a follow-up and evaluation system as part of the development of the irrigated area.
- Establishment of a processing and marketing system for produce from the irrigated areas in the San Francisco area, including San Desiderio.

4. Place and duration of project

The project is located in the Bareiras and San Desiderio Municipalities in the Estado de Bahia, Brazil. Project duration is for three years.

5. Starting date

The project got underway in November 1976, with agricultural marketing, producer organization and irrigation activities.

6. Beneficiaries

Approximately 1000 producers who have settled in the area will benefit directly from this project, as well as the technical personnel from the organizations involved, all of whom will be subject to intensive training programs.

Indirectly, the project will benefit a large number of producers from outside the area, particularly those who will be able to make use of the improved marketing system.

7. Costs

IICA will be contributing with US\$ 100,000 – through the Simon Bolivar Fund – for the second year of the project. As counterpart contribution, the Development Corporation of the San Francisco Valley (CODEVASF), will allocate the equivalent of US\$ 3,805,309 to the project.

8. Participant organizations

IICA will provide technical cooperation on the project, with CODEVASF as national counterpart. Other organizations that will participate actively are: the National Department of Drought Prevention Works, the Department of Sanitation Services, the Bahia State Government, the Brazilian Warehousing Company, the Office for the Development of the Northeast, the Brazilian Institute of Technical Assistance and Rural Extension, the Brazilian Agricultural Research Institute, and the Bank of Northeast Brazil.

9. Final product

The following achievements are expected by the end of the project:

- An administrative organization model for the San Desiderio Demonstration area.
- An Operations and Maintenance Manual for the area, so as to ensure the rational utilization of water and soil resources, as well as of the irrigation and drainage infrastructure.
- The determination and establishment of a production planning system for the area.
- Consolidation of the farmer Cooperative Enterprise.
- Approximately 1,000 producers trained in irrigation management at the farm level, with extensive knowledge of new production techniques.
- Technical teams trained in the administration and operation of irrigation districts.
- A new processing and marketing system for the increased production generated by the project.
- The establishment of a timely and coordinated inter-institutional participation model to back-stop both the administration of the irrigated area as well as the cooperative.

10. Progress achieved

Since March 1977, main project achievements have been as follows:

- a. **Organization, operation and maintenance of the irrigated district.**
 - The technical-administrative structure for the area was defined and the pertinent Manual on Organization and Functions is being prepared.
 - Technical regulations to govern the application of the necessary forms to govern the distribution and control of waters have been established.
 - The formulation of regulations for the establishment of a hydrometric register.
 - The creation of technical standards for surveying the irrigation and drainage infrastructures, in line with the PISD infrastructure inventory (PISD= San Desiderio Irrigated District).
 - Implementation of zoning in the PISD, and definition of areas for irrigation canal inspection purposes.



- Training of canal supervisors and inspectors in the administrative organization of the irrigated district.
- The formulation of a technical guide to govern operations at the farm level.
- Reduction in the amount of water used per hectare, from 5,000 m³/ha/month at the beginning of the project, to the 2,500 m³/ha/month presently being used.
- Participation in MINTER Committee meetings to formulate preliminary drafts of the Regulations for the Operations and Management of Irrigated Districts, recently approved by the Ministry (No. 179, of June 13, 1978).
- A model for the successive application of the approved draft regulations for the Operation and Maintenance of irrigated Districts was formulated.
- Formulation of guidelines to ensure improved conditions of the irrigation infrastructures, and of measures for their conservation.
- Training of technical personnel in the operation, maintenance and development of the irrigated district:

counterpart technicians.....	2
CODEVASF technicians (9 months).....	3
CODEVASF technicians (15-30 days).....	8
IICA fellowships (6 months).....	2
- A hundred colonists were settled between July and December 1977, bringing the number of beneficiaries up to 183.
- Activities were coordinated between the research, extension, credit and cooperative agencies, with the aim of obtaining their active participation in the annual formulation of the Planting Plan, together with District farmers.
- Technical support was provided on the agro-ecological selection of 23 cultivars for the PISD,

and a program of planting practices was drawn up, as well as the monthly irrigation coefficient levels.

- A normative diagram was drawn up for the implementation of the planting plan in order to graphically present the productive process factors to the farmers, for their knowledge and use.
- A first seminar on Agronomic Techniques in Traditional Basic Food Crops was held (wheat, beans, rice and cotton) as part of the pertinent technological package being used by the agricultural technicians.
- A News Letter was prepared on the importance of irrigation, methods, frequency, water measures during critical crop irrigation periods for the PISD.
- EPABA was informed of the principal agricultural research needs, to be incorporated into the working program of this agency (Agricultural Research Institute of Bahia State).
- A model survey of the soil characteristics, irrigation and drainage infrastructure and farm-level problems of sector 36 (156 hectares) was carried out, and will serve as the basis for the formulation of a plan to improve the individual farm situation.
- The estimates of the measure, frequency and time of irrigation for the four types of soils of the PISD have been made, in order to adjust the amount of water to be delivered to each farm.
- Introduction of almost 70 hectares of more sophisticated vegetable crops ("hortigranjeiros") selected for higher returns, in order to supply the local market; this has been done fairly successfully.
- Results of field directions on the use of modern technologies particularly with reference to soil fertility, planting practices and phytosanitary measures, may be observed from the table below:

PISD Areas and Productivity

Crops	1975		1976		1977		1978	
	Has	Kg/ha	Has	Kg/ha	Has	Kg/ha	Has	Kg/ha
Rice	32	3,900	108	3,750	35	2,550	105	4,000
Cotton			50	1,800	116	1,700	83	2,000
Beans	85	900	140	980	400	1,000	900	1,200
Corn			40	1,500	100	2,000	95	2,700
Vegetable crops							70	

- Guidelines for the implementation of integral technical assistance services were prepared, and will be adapted to the operative plan of the CODEVASF/EMATERBA Agreement (Technical Assistance and Rural Extension Institute of Bahía State).
 - Establishment of a new system to revise and control farm-level credit for financing and freeing resources allocated for supplementing crop needs.
- b. Producer organization**
- Main actions in this field included:
- The formulation of a project for the organic structure of COMESF and criteria for its implementation.
 - Participation in the general assembly meetings of the COMESF members (117 colonists have joined).
 - Permanent training of colonists and members of the COMESF on the techniques of irrigated agriculture.
 - Training of middle-level personnel from the irrigated districts on communications and cooperative techniques.
- c. Marketing**
- Formulation of a guide for a survey at the micro-planning level of the PISD marketing situation.
 - Establishment of a marketing model for the PISD.
 - Active participation in the establishment of a program to analyze and promote markets (PROAMER) of the Marketing Services Central Project.
 - Study of the supply conditions and price variations for the agricultural products marketed through the Supply Centers (CEASAS).

Chile





1. Project title

Assisting the San Fernando techno-vocational agricultural school to become a rural development center in benefit of small farmers.

2. Background information and problem definition

The techno-vocational agricultural school at San Fernando is one of ten middle-level education schools of the Ministry of Public Education in Chile, where agricultural technicians are trained.

The new buildings and other facilities built with World Bank assistance were inaugurated in 1976.

The school is located in an intensive agricultural production area, and is surrounded by a number of small holdings.

These middle-level agricultural schools have been concerned mostly with training their students and have given relatively little attention to serving rural community needs or to learn from local experiences and problems.

The school is in a stage of restructuring its study plans and work programs, but the school authorities are aware that the school still lacks the elements

needed to establish linkages with neighboring farmers and their families.

The school has a Farmer Advisory Board but lacks technical assistance in order to establish a methodology and permanent liaison system with the community.

The school farm is 96 hectares, in size; 14 has are occupied by buildings and other services and 82 are used for agricultural exploitation purposes, producing crops for the zone in order to help finance operating costs.

The IICA Office in Chile has a program underway to train professors at the middle-level education level (1976–1977 and 1977–1978 Operative Programs), and is helping prepare new study programs, in accordance with a specific agreement subscribed between IICA, the Ministry of Education and the Ministry of Agriculture in June 1976.

The purpose of this project is to assist the school to become a rural development center, encouraging an inter-dependence between the small farmers and the School so that, in fact, the school may serve as a promotional center for associative farming endeavors.

The Social Development Corporation of the Rural Sector, in accordance with an agreement with



the Undersecretariat of the Ministry of Education made in April 1977, assumes the responsibility for directing and administrating the San Fernando school, keeping official educational programs in mind.

The Corporation is orienting production aspects at the school, preparing students with higher levels of training for positions of middle-level command, so that they will be able to help small farmers adopt associative forms of production and increase their participation in the process.

3. General and specific objectives

To promote the integration of the School with the Community, with programs that will facilitate the school's incorporation into the local milieu; it will then be in a position to exercise certain coordinating actions over the agencies working on the rural development process in the zone.

To establish coordination mechanisms so as to ensure the community's integration with the educational programs and with the other agencies participating in the rural development of the area of influence surrounding the school.

4. Place and duration of project

The project is located in Conchagua province, where the San Fernando School is located. Project duration has been estimated at three years.

5. Starting date

The project got underway in March 1978.

6. Beneficiaries

The project will benefit three different types of people: the teaching staff and students at the School who will have the opportunity to be more closely associated with solving community problems. The farmers of the zone who will receive training at the school, and will also have access to direct technical assistance from the school.

7. Costs

The costs of the project for the first year is US\$ 40,000 which will be shared equally by the Simon

Bolivar Fund and the Government of Chile, through the Ministry of Public Education.

8. Participant organizations

The Ministry of Public Education of Chile, more specifically, the Professional Education Bureau. The National Agricultural Society, through the Social Development Corporation of the Rural Sector.

9. Final Product

To define the specific areas for the development of School actions directed toward the community.

To design and test methodologies to analyze, with the farmers, the production techniques they use, and to determine the innovations which will benefit them economically and socially in order to upgrade their levels of well-being.

To design and support a training program for the farmers and their families, with the active participation of professors and students.

To design a program for future actions, including the need to foster the interest of agencies which provide agricultural services to the farmers of the region, and to promote associative forms of production.

10. Progress achieved

A Directive Committee was established and an executor assistance and a family affairs assistant have been appointed.

A Consulting Committee was set up with four farmers (two from the Regional Council of the School and two small farmers from the neighboring area), the professors and project field staff.

A study of the area of influence was carried out and a group of 30 farmers was selected, to participate directly on the project.

Eighteen specific actions were organized and carried out, including courses, practical demonstrations and others of impact, in a two-way direction: School - Community.

Costa Rica



Costa Rica



1. Project title

Collaboration on the Formulation of the National Agricultural Development Plan.

2. Background information and problem definition

Since 1974, IICA has been cooperating with the Ministry of Agriculture and Animal Husbandry (MAG) and the Agricultural Sectoral Planning Office (OPSA) so as to establish the bases for a sectoral planning system. More recently, IICA has been cooperating on the formulation of a diagnostic study of institutional aspects in the rural sector of Costa Rica, to serve as a basis for the National Agricultural Development Plan.

The lack of qualified personnel in planning, and socio-economic and institutional programming techniques, the variety of planning offices in the various agencies to be oriented and advised, personnel training needs, the lack of knowledge and experience in institutional development strategies and techniques, all indicate the need for more substantial and permanent technical cooperation services to help strengthen the planning system for the agricultural sector of the country.

OPSA and IICA – with the sanction of the pertinent national organizations – have therefore for-

mulated this project with the aim of strengthening the national agricultural planning system.

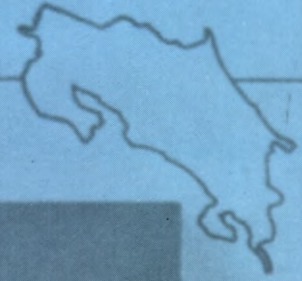
3. General and specific objectives

By means of this project, IICA will:

- Cooperate with the agricultural sectoral planning system on the formulation of the National Agricultural Development Plan, emphasizing those aspects related to food production.
- Help up-grade OPSA's institutional capability so as to adequately accomplish assigned functions.
- Help establish a permanent training mechanism for the personnel from planning units of the respective system's agencies.
- Cooperate with the planning units of sectoral agencies on the formulation of projects, particularly those concerned with food production.
- Help up-grade the administrative and operative capability of the public agricultural sector and its agencies.

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Información básica del sector agropecuario de Costa Rica



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1977

4. Place and duration of project

The project will be developed in San Jose, Costa Rica. Project duration is two years.

5. Starting date

The project got underway on August 21, 1976.

6. Beneficiaries

Technical personnel from OPSA and the planning agencies of the sector.

7. Costs

Total project cost for the second year is US\$ 765,315 of which the Simon Bolivar Fund will contribute US\$ 103,315 and Costa Rica the equivalent of US\$ 662,000.

8. Participant organizations

The following organization and agencies are participating in this project: the Ministry of National Planning and Economic Policies, the Ministry of Agriculture and Animal Husbandry (MAG), and the Agricultural Council (CAN), through OPSA, the agencies of the national institutional planning system, and IICA.

9. Final product

The following achievements are expected by the end of the project:

- To have completed the National Agricultural Development Plan, including the identification, discussion, acceptance and established order of priority of problems; the identification of a least 10 projects to help solve problems; project formulation methodologies for use by OPSA and the sectoral planning system. The complete formulation of a least five projects and a minimum of 40 persons trained.
- A functioning personnel training mechanism.
- Adequate organizational structure and resources so that OPSA may properly carry out its functions.
- That MAG, the Production Council and the Lands and Colonization Institute strengthen their planning units with the necessary personnel and organizational structure, so as to adequately carry out their functions, in coordination with OPSA.
- The adequate functioning of the sectoral planning system.

10. Progress achieved

To date, project actions have accomplished the following:

- Establishment of the technical and organizational bases of OPSA.
 - Sixty OPSA and public agricultural sector technicians were trained in the areas of planning, institutional development and project preparation.
 - A diagnosis of the agricultural sector for the period 1962-1976 was prepared.
 - The National Agricultural Development Plan for 1978-1982 was duly prepared, thereby accomplishing the main objective of the Simon Bolivar Fund agreement.
 - A diagnosis of the agricultural situation of the Atlantic region was made and published.
 - A diagnostic study of the institutional aspects of the sector was conducted.
 - Twenty investment projects were identified, oriented toward the solution of problems detected in the diagnostic study of the agricultural sector.
 - The following programs and projects were prepared:
 - Cacao Activities Program.
 - Research, extension and technology transfer project for MAG and the OPSA Training Program, for consideration by the Inter-American Development Bank (IDB).
 - Institutional Development Program.
 - 1978 Annual Operative Program for the Agricultural Sector.
 - National Training Program.
- In addition to the above accomplishments, mention should also be made of the following:
- A meeting was held of specialists in institutional aspects of the agricultural and rural development process in Latin America.
 - Considerable progress has been achieved with the government of Costa Rica on the consolidation of OPSA.

Dominican Republic



Dominican Republic



1. Project title

Cooperative Project between the Technical Under Secretariat for Planning of the State Secretariat of Agriculture of the Dominican Republic and the Inter-American Institute of Agriculture Sciences, to Strengthen Sectoral Planning Mechanisms.

2. Background information and problem definition

The unbalanced, extremely rapid increase in population and of income has produced a tremendous increase in the demand for food and raw materials which must be met by country.

One way is to help farmers with incentives and public services. To this end, a number of agencies have been established which are working specifically on research and extension aspects; others on marketing and price policy matters, and another on fostering agrarian reform, etc.

These agencies have the advantage of being more specialized in their areas of application thereby attaining greater efficiency. However, in order to help farmers in a sustained manner, incentive and service policies should be homogeneous in nature if increases in production are to be obtained (since production is not strictly a function of technological know-how

only, or even of credit, each in an isolated manner; rather, an integral approach is needed).

In order to apply a homogeneous incentives and services policy, a certain level of coordination is needed between the different agricultural agencies which provide them. This type of coordination is necessary at both the planning and implementation stages. In planning, efforts are underway to coordinate the different agencies to comply with the objectives and strategy of the national development plan; to clearly define the type of beneficiaries, their exact geographic location and the time limits or sequences in which these incentives and services must be provided.

This can be done by means of sectoral programs and projects established at the annual operative plan level.

Although there is an overall strategy and an annual operative plan which encompasses a significant proportion of the agricultural sector and a series of financial assistance commitments already exists, there are still some agrarian agencies which are working in a relatively isolated manner. This hinders the eventual coordination of the sectoral programs and projects.

Mechanisms are still being formulated to assure necessary integration at local and regional levels, but

are not sufficiently developed so as to comply adequately with all they must do.

IICA is in a position to share with the Technical Agricultural Sectoral Planning Undersecretariat and other sectoral agencies, thanks to its experience acquired over the years on the formulation of plans and projects as needed to implement the agricultural development strategies of the country, with priority on increasing food production.

3. General and specific objectives

The overall objective is to cooperate with the sectoral agricultural planning system in general, and with the Technical Undersecretariat in particular, on the implementation of all types of actions oriented toward attaining increases in food production.

The specific objectives are as follows:

- To advise the Technical Planning Undersecretariat on the formulation of sectoral programs and projects, particularly those concerned with increasing food production, as established in the Sectoral Development Plan Strategy.
- To advise the regional planning mechanisms of SEAPLAN on the formulation and evaluation of agricultural development programs and projects.
- To collaborate with the sectoral technical planning secretariat and other agencies of the Agricultural Sectoral Planning System, on the adoption of institution building measures, particularly with respect to inter-institutional coordination.
- To train the planning units of other agencies or undersecretariats to elaborate their own institutional programs and projects, with emphasis of food production.

4. Place and duration of project

The project will be executed jointly with the Technical Undersecretariat of Agricultural Sectoral Planning of the State Secretariat of Agriculture of the Dominican Republic, and will last for a period of three years.

5. Starting date

The project got underway in September 1977, once the necessary technical staff had been employed.

6. Beneficiaries

Direct beneficiaries of the project are the professional staff of the Technical Planning Undersecretar-

iat, and of all the programming units of the component agencies of the public agricultural sector.

7. Costs

Project costs have been estimated at US\$ 149,200 for each year the project runs, with a total cost over the three years of US\$ 447,600. Of this total sum, the Simon Bolivar Fund will be financing US\$ 225,000 and the Dominican Republic DR\$ 192,600.

8. Participant agencies

In addition to IICA, the following agencies are participating on this project: The State Secretariat of Agriculture, more specifically the Technical Planning Undersecretariat; the Planning Units of the Research, Extension and Training Undersecretariat; the Production and Marketing Bureau, the Dominican Agrarian Institute and the Dominican Hydraulic Resources Institute.

9. Final product

It is expected that the following will have been accomplished by the end of the project:

- The formulation of programs and projects, by agency, with emphasis on food production aspects.
- At least 20 people training in the preparation of plans, programs and projects.
- A training mechanism established to train personnel in the preparation of plans, programs and projects.
- A regional-level planning mechanism, adequately reinforced.

10. Progress achieved

The project is being carried out by two international specialists: one in agricultural planning and the other in project preparation. Both will be working on the project for its entire duration, plus a number of other technical staff, both national counterpart personnel and international and national technicians employed as short-term consultants.

In agricultural planning aspects, cooperation has been provided:

- at the regional level, on measuring and analyzing the behavior of the main variables of the agricultural development process;



- on the formulation of regional-level programs and projects designed specifically to obtain project objectives;
 - on the elaboration of sub-sectoral plans and programs, specifically SEA's 1978 Operative Plan, and the 1978-1982 Agricultural Development Plan;
 - on training counterpart personnel.
- The following work is underway on project preparation aspects:
- cooperation is being provided on the formulation of specific projects based on the Operative Plan and on the sectoral development programs, particularly those emphasizing food production
 - cooperation is being provided on negotiating specific projects for external financing, again emphasizing those concerned with food production.
 - SEAPLAN staff is being training in the formulation and evaluation of agricultural projects.

Ecuador



Ecuador



1. Project title

Quimiag-Penipe Integrated Agricultural Development Project.

2. Background information and problem definition

Over the past few years, the Ministry of Agriculture and Livestock (MAG) has become increasingly aware of the need to integrate the different actions being carried out by the public agricultural sector, as a means to ensure the effectiveness of these actions and so as to attain established agricultural policy objectives.

In January 1975, and on the basis of an analysis of the current situation, the Rural Development and Planning Offices proposed a joint endeavor to the Technical Council, for the formulation of Integral Rural Development Projects, with the following objectives:

- To smooth the way for MAG actions in the field.
- To train technicians so as to improve their working methodology.
- To prepare Integral Rural Development projects for areas within priority agrarian reform zones.

- To provide new elements so as to up-date rural development working policies and to establish some practical guidelines for their implementation.

As a result, two Integral Rural Development projects were prepared between February and September of 1975: the Quimiag-Penipe project in the Province of Chimborazo and the Quero Project in the Province of Tungurahca.

Moreover, by Ministerial Decrees No. 146 of April 6 and No. 182 of May 17, the operative structure of the Ministry of Agriculture and Livestock was reorganized and an Agricultural Zone Office was created for the Province of Chimborazo, as a technical-administrative unit located in the city of Riobamba. Concurrently, Zonal Coordination Committees or Provincial Agricultural Councils were also set up.

The Quimiag-Penipe Integral Rural Development Project, will be handled as an Integrated Agricultural Development Project (PIDA) within the newly structured MAG, and will have three professionals, seven middle-level and two service-level technicians, located in the parishes of Quimiag and Bayushi.



3. General and specific objectives

The general objective of this project is to cooperate with MAG on up-dating the Integrated Agricultural Development Project for the Quimiag-Penipe area, and getting it underway.

To this end, the more specific objectives will be:

- To up date the Integrated Rural Development Project for the Quimiag-Penipe area, which had been prepared by MAG in 1975.
- The organization and administration of the zonal coordination committees as a function of the PIDA, based on the operations of the Quimiag-Penipe Project.
- The definition and formulation of operative mechanisms for the agricultural sectoral agencies, for the Quimiag-Penipe PIDA project.
- To determine the appropriate production technology to be adapted for use by small farmers in the zone.
- The training of project and MAG personnel, as well as those from other participant agencies, through the programming and implementation of the Quimiag-Penipe project.

4. Place and duration of project

The project will be located in the extreme Northeast of the Province of Chimborazo, in the Riobamba and Guano cantons. Project area is 31,470 has with 6 administrative units or parishes: El Altar, Penipe, Puela, Bayushi, Matus and Quimiag. Project duration is for three years.

5. Starting date

The project will begin in December 1977.

6. Beneficiaries

Beneficiaries of these projects will be the Ministry of Agriculture and Livestock and other participant agencies, through the training of their personnel to up-grade their work, and the obtention of methodologies adapted to the PIDA system. In addition, the "campesinos" working within the area of the Quimiag-Penipe project and others living in neighboring zones will benefit from the experience acquired during the implementation of this project.

7. Costs

Costs have been estimated for the first year only, since national contributions in subsequent years will

depend on progress achieved. First year costs have been estimated at US\$ 330,960 of which the Simon Bolivar Fund will be contributing US\$ 102,000 and the country with the equivalent of US\$ 228,960.

8. Participant organizations

The agencies directly responsible for the implementation of this project will be IICA and MAG-Ecuador. Others to participate on the project in support of IICA's actions are Cornell University and national agencies such as the National Promotion Bank (BNF), the National Agricultural Research Institute (INIAP) and the National Hydric Resources Institute of Ecuador (INERHI).

9. Final product

Expected achievements are as follows:

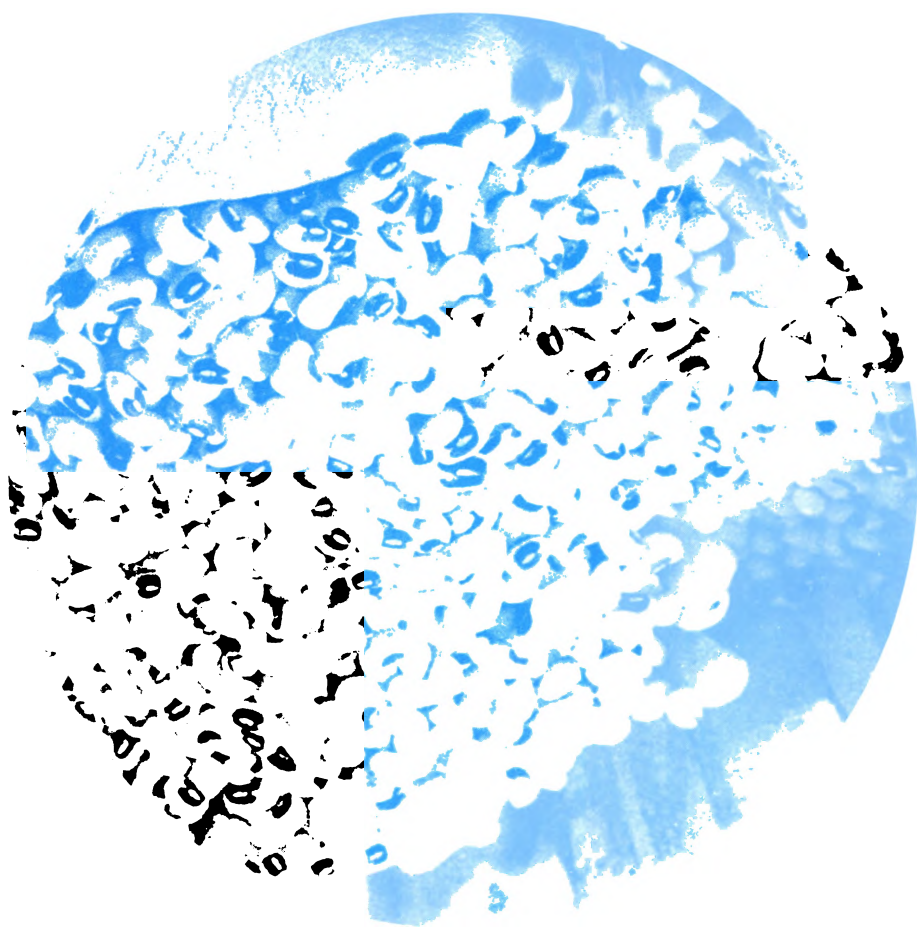
- The presentation of an up-dated document describing the Quimiag-Penipe Integrated Agricultural Development project.
- The efficient functioning of the Zonal Coordination Committee of the Quimiag-Penipe project.
- The design of appropriate mechanisms for credit, technical assistance, training and marketing, ensuring their efficient functioning.
- The preparation of technological packages that have been adapted to and tested in the area, ready for use by small farmers.
- Trained technical personnel assigned by the different participant agencies to the project.

10. Progress achieved

- Mechanisms needed to up-date, adjust and complement the PIDA-Quimiag-Penipe project were designed and put into practice.
- Production systems were identified.
- Training study trip to Colombia, to visit the Nariño Altiplano, South Huila, Río Negro and Caquetá rural development projects; to meet with directors and administrators of ICA, the Agrarian Institute, National Planning Office and SECORA (Agrarian Reform Cooperatives Central). The results of this activity can be summarized as follows:
 - a. The institutional coordination scheme used by DRI was studied.

- b. The mechanisms to generate and transfer technology used by ICA/Colombia were analyzed.
 - c. The method used in Colombia for the identification of small farmer production systems was observed.
 - d. Experience and knowledge were exchanged on the establishment of technology test plots, by farmers and by the promotor of the technological packages.
 - e. The DRI credit and marketing schemes were duly analyzed.
 - f. The methodologies for the evaluation and follow-up on activities were discussed.
- The Drip Irrigation system was introduced to small farmers for application on their holdings.
 - Training was received in methodologies for the identification of agricultural production systems.
 - A seminar was held on methods to identify production systems in small farmer areas. Twenty-one functionaries from the Zone-8 Office of MAG, two from INIAP and four from the Higher Politechnical School at Chimborazo attended this seminar.
 - The first stage of the field work on identifying production systems in the Quimiag-Penipe area was completed.
 - Terms of reference for the project were duly defined.
 - An Office at Quimiag was organized and set up.

Guyana



Guyana



1. Project title

Fostering Legume and Cassava Production in Guyana.

2. Background information and problem definition

The government of Guyana has established a National Legume Production Program with the aim of attaining self-sufficiency in pulses with possibilities for future exportation.

The first stage of this program aims at attaining self-sufficiency by 1980, with a production of 10 million pounds. In this manner, the government hopes to assure the regular supply of legumes, thereby saving on foreign exchange, estimated at G\$ 6 million by the end of the decade, as well as guaranteeing a stable price to the consumer.

The strategy for implementing the program envisions the increased participation of small and medium-sized farmers, both on an individual as well group basis, who will obtain improved incomes as a result, in relation to what they currently get for their traditional crops.

In addition, the government has prepared a Cassava Production Program with the aim of supplying

enough raw material to the mills that have recently been installed in the Kaituma, Charity and Look-Out zones, and one yet to be established. The first two have a capacity for processing 40 tons a day, while the Look-Out mill and the one still to be built will be able to receive 15 tons a day. The operation of these mills at 70 percent capacity will produce sufficient cassava flour for mixing with other flours, in a proportion of 10 percent of all flour used in the country.

The country intends to expand cassava production to this end. However, it is felt that about 80 percent of the raw material must come from large, efficient and well managed production units, in order to supply the mills with what they need.

3. General and specific objectives

IICA will be cooperating with the government of Guyana with the aim of:

- Developing “management” capacity at the agencies involved in these programs, and implementing adequate administration systems.
- Developing service and input distribution sub-systems.



- Increasing the total surface area dedicated to legume production, within the project.
- Assuring the timely distribution of seed to state farms, small and medium-sized farmers and their associative enterprises, in expected quantities and quality.
- Incorporating the specified areas in the Kaituma, Charity and Out-look zones for cassava production.
- Developing "management" capacity in small and medium-sized cassava farmers and their associative enterprises, and ensure their adoption of appropriate administration systems.

4. Place and duration of project

The project is located at Matthew's Ridge, Kaituma, West Demerara, East Berbice and in the Intermediate Savanna. Project duration is three years.

5. Starting date

The project got underway in July 1976.

6. Beneficiaries

Approximately 1,000 selected farmers from the areas mentioned above will benefit from this project, as well as all the technical personnel working on it who will be receiving intensive training in pertinent aspects.

7. Costs

Project costs for the second year are estimated at JSS 429,540, of which the Simon Bolivar Fund will be contributing with US\$ 131,140 and the country with the equivalent of US\$ 298,400.

8. Participant organizations

IICA will be cooperating on this project with the Guyana National Service, the Guyana Agricultural Products Corporation, the Guyana Defense Force, the Demerara Sugar Company and Guyana Rice Board, all under the coordination of the Ministry of Agriculture.

9. Final product

Expected achievements by the end of the project are:

- A perfected design for legume and cassava programs.

- The development of management systems for legume and cassava programs, at Ministry of Agriculture levels.
 - The development of management systems for state farms participating in the programs.
 - The development of management systems at the producer level, encouraging their use by farmers participating in the programs.
 - The development of production plans for state farms, associative enterprises and independent farmers.
 - The establishment of a technical assistance sub-system.
 - The establishment of an input distribution sub-system.
 - The production and timely distribution of seed as required by state farms, small and medium-sized farmers and their associative enterprises, in expected quantities and quality.
 - The incorporation of 1200 acres in Kaituma, 1000 in Charity and 190 in Look-Out for cassava production purposes.
 - The training of 300 legume producers of each of these organizations and the 10 associative enterprises dedicated to cassava production, in appropriate production and administration methods.
- 10. Progress achieved**
- Support was provided the Ministry of Agriculture and the state farm administrative agencies on the development of pulses production plans.
 - A number of pulses and cassava production studies have been carried out, providing information on the cropping practices currently in use by those farming these crops. The studies have also contributed to the identification of the factors limiting the production of these crops and a number of recommendations have been made to solve these problems.
 - Experiments with Blackeye Pea California 5 were carried out in Black Bush Polder and in Hubabu. Experiments on the production of genetic material in cassava were also conducted.
 - The Fund supplied a seeder which has been used successfully. One of the seeder elements was modified, to adapt it to the heavier soils.
 - In training, six field days were held on cropping practices in pulses, with the active participation of 127 farmers.
 - Ten farmers were training in agronomic aspects of both pulses and cassava.
 - Six short courses were given in several different regions of the country, on the agronomical aspects of pulses and cassava. A total of 135 technicians attended these courses, including extensionists from the Ministry, professors in agricultural sciences, and technical staff from the state corporations.
 - Two courses were given on the use of climatological data in planning and managing water and soil resources, for 55 technicians,
 - A workshop on the Principles of Crop Protection was held.
 - Eleven brochures were prepared and published, on different aspects of cassava and pulses.

Haiti





1. Project title

To Strengthen the National System which Supports Rural Development Community Projects (Development "Islets").

2. Background information and problem definition

The rural population in Haiti is estimated at 85 percent of the total. Agricultural production increased at a rate of 1.5 percent a year between 1971 and 1973, while the population increased at an annual rate of 1.7 percent during the same period. In terms of food, the daily per capita calory consumption has been estimated at 1,700, or a deficit of approximately 500 calories a day, below minimum requirements.

In view of the above, the government of Haiti decided to create a new rural development system in January 1974, called Development Islets. In October of that same year, the State Secretariat of Agriculture (DARNDR) requested IICA's technical cooperation to develop the new system. Hence, as of January 1975, IICA began collaborating with local authorities on the conceptualization of a Haitian model for community enterprises and on the definition of appropriate policies to govern this type of activity.

In August 1975, DARNDR opened a Technical Secretariat Office for the Development Islets, to coordinate the activities of the different national, international, public and private institutions working with the development islets, of which there are five: Bongnotte in Léoganne; Méyer-Organers in Jacmel; Desbarrieres in Gonaives; Desarmes in St. Marc; and Crois-Fer in Balladeres.

3. General and specific objectives

- To cooperate on strengthening the existing Technical Secretariat so as to be able to foster the optimum utilization of available human, economic, and agricultural resources with the aim of accelerating the integral development of the "campesino" and his family.
- To cooperate on the consolidation of an appropriate mechanism for the planning, coordination and supervision of activities carried out by the different agencies of the Haitian and foreign institutional systems working with the development islets.

- To establish permanent information and training systems for the human resources of institutions participating in this program, and for those of the beneficiary "campesino" organizations.
- To cooperate on the implementation of instruments (techniques and methods) for the elaboration of projects to foster production, increased agricultural employment, higher levels of know-how and income amongst producers, and the organization of "campesinos".

4. Place and duration of the project

This project is located in Port-au-Prince and the rural zones where development islets exist. Project duration is four years.

5. Starting date

The project got underway in June 1976.

6. Beneficiaries

Beneficiaries include the personnel assigned to the Technical Secretariat for the Development Islets, and from other participating institutions, who will receive training in the preparation and implementation of Area Development projects, and the farmers who live in the islet areas.

7. Costs

Project costs for the second year of operations will be US\$ 160,000. The Simon Bolivar Fund will contribute with US\$ 75,000 and DARNDR with the equivalent of US\$ 85,000.

8. Participant organizations

The following institutions will be participating in the implementation of this project: DARNDR,

CONADEP (National Development and Planning Council); BCA (Agricultural Credit Office); and IICA.

9. Final Product

Expected project accomplishments, upon completion, are:

- The Technical Secretariat's assured capability to plan and implement area development projects.
- The establishment of a permanent training system for the human resources of the agricultural sector participating in islet programs.

- The training and organization of the farmers involved in islet programs.

10. Progress achieved

Significant progress has been made in the second year of the project on perfecting and consolidating the development model.

- a. All institutional levels have participated on the formulation of a national program for the Development Islets.
- b. Thirty-seven technicians and 16 "campesinos" have been trained in research-action methodologies as a basic tool to attain the consolidation of "campesino" organizations, including participation in programming aspects.
- c. A study of the cropping systems in the Development Islets was completed, and will serve as a basis for planning the technical endeavors oriented toward increasing the income from the different products.
- d. The agricultural production credit needs have been studied in each of the five Development Islets, and a number of general recommendations have been made to serve as guidelines for an agricultural credit program for the Islets.
- e. Maps have been made, defining the areas actually being worked in each of the Development Islets.
- f. The technical teams in the field have been reinforced, filling a number of essential gaps:
 - 3 agricultural technicians (Désarmes, Desbarrières, Orangers).
 - 1 rural motivator (Bongnotte).
 - 1 veterinary technician (Croix Fer).
- g. In addition, the technical and administrative capacity of the STID has been strengthened, by means of the following:
 - appointment of a technical director.
 - appointment of a second rural youth specialist, on a full-time basis.
 - appointment of a full-time administrative assistant.
- h. A first training activity for "campesinos" got underway, with respect to rationalizing livestock activities.

- i. The district agronomists have been given more administrative authority over the Development Islets.
- j. A first marketing activity was undertaken with SENACA, and help has been provided for the training of a Haitian entomologist in marketing and grain storage aspects.
- k. By means of trips abroad, six Haitian technicians (three from headquarters and three field staff members) have been training on problem-solving aspects in the areas of agricultural production and "campesino" organization.
- l. Collaboration has been provided the Rural Motivation Service in a stepped-up endeavor in massive training of "campesino" leaders by means of regional workshops on community development aspects and self-management techniques (200 "campesinos" have received this training).
- m. The government has increased its cash contribution to the National Islets Development Program, from \$ 45,000 to \$ 65,000.

- n. After a number of trips to study different agricultural districts, the number of Development Islets was increased from five to nine.

Technological change indicators in the Development Islets

A study of the cropping systems used in the Development Islets and of the small farmer credit needs was conducted between February and May 1978. A selection was made of farms belonging to farmers representing the different producer categories in each Islet, for an in-depth study. A total of 56 farmers were used for the study of the five Islets—in no case were less than 10 used.

A table is given below indicating the percentage of interviewed farmers who have adopted certain technological changes (referring to the 1977–1978 agricultural year). In all cases, the percentages for the year when the islet was established (1974–1975 or 1975–1976) are registered as zero.

Islet	Technological change:	Improved seed – corn	Improved seed – sorghum	Use of insecticides	Use of chemical fertilizers
Bongnotte		100 %	71.4 %	66.7 %	41.7 %
Croix-Fer		10	0	40	60
Désarmes		20	16.7	83.3	0
Desbarrières		60	71.4	90	0
Orangers		80	50	41.7	50
Total/Average		44.8 %	42.9 %	64.4 %	26.8 %

Technicians and "campesinos" registered for participative programming, using the research-action methodology		
Trained technicians and "Campesinos"	Désarmes 11/77	Bongnotte 6/ 78
Rural motivators	6	7
Agricultural technicians	3	6
District agronomists	1	—
Credit agents	3	—
Literacy coordinators	1	—
Other local technicians	2	3
STID	2	3
"Campesinos"	10	6
Total	33	25

Effective participation of "campesino" families in Islet activities

Islet	1974-1975	1975-1976	1976-1977
Bongnotte	10	50	80
Croix-Fer	15	300	500
Désarmes	20	70	300
Desbarrières	0	80	150
Orangers	10	60	200
Total	55	560	1230



1. Project title

Strengthening the National Improved Seed Service (SENASA)

2. Background information and problem definition

The seed situation in Haiti is one of the obstacles seriously constraining the development process being fostered by the government within the agricultural sector. One of the main problems is the lack of a national seed policy to guide government action plans as pertaining to the supply of improved seed throughout the country.

Some consequences as a result of this situation, are:

- Insufficient production in basic foods, as related to population growth.
- The flight of foreign exchange in payment for imported basic grains.
- The dependency of the country as to food supply security.

However, the government has been making serious efforts over the past few years to improve the national seed situation. To date, actions undertaken are as follows:

- The Agricultural and Industrial Development Institute (IDAI) is committed to the production of improved seed of local bean varieties in Cas-Trucas, in the Gonaives Plain.
- In July 1977, the Aid and Cooperation Fund of the French government (FAC) completed a center for the production and processing of improved corn seed (COSAM) in Damien, in the Cul-de-Sac Plain.
- USAID is building a production and processing center for improved corn seed at Levy, in the Cayes Plain.
- The Chinese and Israeli missions and FAO are interested in helping with the production of improved seed in rice (Artibonite valley), sorghum (Cul-de-Sac Plain) and corn (Northern Plain).

- IICA has been cooperating with the Department of Agriculture, Natural Resources and Rural Development (DARNDR) on the formulation of a project to create a National Improved Seed Service (SENASA) within the Department of Agriculture.

- Recently, DARNDR requested IICA aid on implementing a technical-administrative unit within the Department of Agriculture, capable of supervising the work being done by national and international institutions of both the public and private sector, with respect to the production and marketing of seed, with the aim of providing an effective and efficient seed service for small farmers.

3. General and specific objectives

The general objective of this project is to cooperate with DARNDR on getting the recently created SENASA properly established and underway, and to ensure the established institutional capacity within the DARNDR, so that SENASA may effectively and efficiently coordinate, plan, supervise and evaluate the work being done by public and private, national and international institutions already committed to or interested in the production and marketing of improved seed with the aim of improving the national seed situation and thereby increasing basic food production throughout the country.

The specific objectives of this project are:

- To cooperate with SENASA on the establishment of a national seed policy as related to local production, importing, exporting and marketing of improved seed.
- To cooperate with SENASA on the creation and operation of an inter-institutional coordination and planning mechanism for the local production of improved seed.
- To cooperate with SENASA on establishing a seed certification system and on providing quality control guidelines, as closely related to international standards as possible.
- To cooperate with SENASA on fostering the use of nationally produced improved or certified seed.



- To cooperate with SENASA on the establishment of a permanent training system for the human resources needed to ensure the adequate functioning of this service.

4. Place and duration of project

The project will be working out of Port-au-Prince and in the zones where improved seed production centers already exist or will soon be established. Project duration is four years.

5. Starting date

The project got underway in September 1977.

6. Beneficiaries

The direct beneficiaries of this project will be the National Improved Seed Service, the production and marketing centers for improved seed, and the farmers that produce the improved seed.

7. Costs

Project cost estimates for the first year are US\$ 52,000 of which IICA, through the Simon Bolivar Fund, will be contributing US\$ 45,000 and the government of Haiti the equivalent of US\$ 7,000.

8. Participant organizations

The following national organizations will be participating on this project:

- The National Development and Planning Council (CONADEP).
- The Department of Agriculture, Renewable Resources and Rural Development (DARNDR).
- The Agricultural and Industrial Development Institute (IDAI).
- The Artibonite Valley Development Agency (OVDA) and
- Other agencies of the institutional system.

International agencies participating on the project are:

- The Inter-American Institute of Agricultural Sciences-OAS (IICA).
- The Aid and Cooperation Fund of the French Government (FAC).
- The US Agency for International Development (USAID).

- The Chinese Technical Cooperation Mission.
- The Israeli Technical Cooperation Mission and
- other foreign agencies.

9. Final product

Expected achievements by the end of the project, are:

- DARNDR will have a central institutional and operational structure with the capability of setting seed policies for the agricultural sector and of effectively and efficiently planning coordinating, supervising and evaluating the work undertaken by national and international agencies, both public and private, with respect to the production of improved seed throughout the country.
- SENASA will have a qualified technical team trained in the technologies, production and administration of seed policies for the sector.
- A national committee will have been set up to plan and coordinate the seed production process.
- The agricultural sector will have prepared a series of official documents to govern the production, certification, importation, exportation and marketing of seed.

10. Progress achieved

- A diagnostic study was carried out at the institutional level (including 21 institutions of the public and private sectors) concerning the present status of the national system to supply improved corn, sorghum, beans and rice seed.
- Work was done on the organization of producer groups for the production of bean seed.
- Cooperation was also provided on the organization and getting underway of SENASA, through the preparation of the following documents:
 - SENASA Functions
 - The Organization of SENASA
 - National Seed Policy (including a draft law)
- In-service training was provided staff assigned to SENASA, by means of informal short courses, participation in the preparation of the documents, and a workshop on the production and distribution of corn seed.

- Three technicians were given scholarships to study abroad: courses and in-service training on the production, processing and distribution of seed.
- Support was provided on the preparation of the document "National Program for the Production

and Distribution of Improved Seed" which includes the definition of general and specific program objectives; program goals and means of attaining them; the participant agencies, their contributions and responsibilities; evaluation mechanisms and the organizational structure of the program.

Honduras



Honduras



1. Project title

Institutional Strengthening of the Agricultural Development Project for Frontier Rural Areas.

2. Background information and problem definition

There are two basic factors which hinder social and economic growth in Honduras, thereby generating constraints to the development of the country's economy. In the first place, the income levels are low, and they are inadequately distributed. In the second place, the socio-economic marginality of the rural sector, with its traditional production structure, lacks any type of basic infrastructure.

These problems are particularly evident in the southwestern zone of the country, which encompasses five departments (Ocotepeque, Lempira, Intibucá, La Paz and Valle), with an approximate population of 502,654 inhabitants, which represents nearly 20% of the total population of Honduras. Population density for the area is 40.7 inhabitants per square kilometer, which is considerably higher than the national average of 23.7 inhabitants per kilometer. The population is largely young (38% under 15 year of age) and rural, and the illiteracy level for the area is around 70%.

The income levels for the zone vary between 100 and 185 lempiras a year, or between 15 and 30% of the national average.

In seeking the development of this region, the Government of Honduras and several international organizations have undertaken several programs for the rehabilitation of the frontier areas of the country. These programs have been oriented towards activities concerning improved education, pre-natal, maternal and infant care, community development, communal vegetable gardens, and agricultural extension. However, these actions have been somewhat limited and lacked continuity. The Government of Honduras, therefore, requested IICA technical cooperation to strengthen the Agricultural Development Project for the Frontier Rural Areas.

3. General and specific objectives

To collaborate with the National Resources Secretariat on specific actions oriented towards fostering the integral development of the southwestern zone of Honduras, by means of the Agricultural Development Project for Frontier Areas currently being implemented by the Agricultural Operations Office.





To assure adequate institutional capability to obtain increased production and productivity, higher income levels and increased employment in the areas and respective zone of influence, through the implementation of this Agricultural Development project.

Specifically, IICA will:

Cooperate with the Agricultural Operations Office of the Natural Resources Secretariat, on:

- The identification and preparation of area development sub-projects, involving the participation and coordination of research, extension, credit, marketing, planning and “campesino” organization services, oriented towards increasing agricultural production and productivity.
- The implementation, supervision and evaluation of these area development sub-projects.
- The development of methodologies for the implementation, supervision and evaluation of these sub-projects.
- The creation and operation of inter-institutional coordination mechanisms so as to facilitate the implementation of these area development sub-projects.
- Training the technical personnel participating in the project.
- The organization and training of farmers.

Extend the experience acquired, and accomplishments obtained with the actions of the area sub-projects, to other zones within the region of influence of the project for the Integral Development of Rural Frontier Areas.

4. Place and duration of project

To begin with, Project headquarters was the city of Marcala, with work encompassing the municipalities of Santa Elena, Yarula and Cabañas, in the La Paz Department. Currently, the project also includes Santa Ana, Marcala and Opatoro. Project duration is three years.

5. Starting date

The project got underway in January 1977.

6. Beneficiaries

This project will benefit the Natural Resources Secretariat, through the training and institutional and

operative experience acquired by its personnel; the producers – independent as well as organized – involved in the project; and the consumers, from within the area itself as well as those from the zones of influence.

7. Costs

The total cost for the second year of this project is US\$ 241,810. The Fund will be contributing US\$ 100,000 and the country the equivalent of US\$ 141,810.

8. Participant organizations

IICA and the Natural Resources Secretariat are participating on this Agricultural Development Project for the Frontier Areas of Honduras. The Secretariat establishes the linkages and coordination of its different dependencies and of the other government agencies, as needed to implement the actions described above.

9. Final product

- Ensure that the Agricultural Operations Office of the Natural Resources Secretariat is fully capable of preparing and implementing projects.
- Assure an adequate institutional mechanism for the implementation of agricultural sub-projects within the project's area of influence.
- Ensure that the area development sub-projects of Santa Elena, Yarula and Cabañas get underway.
- Assure the adequate training of professional personnel for the first two areas of project implementation.
- Ensure the formulation of the Fund Action Plan for the following years.

10. Progress achieved

A summary of actions accomplished and progress achieved, as a function of project objectives and goals, is given below:

- It has been proved that the proposed strategy presently in use for the agricultural development project is a functional one, and that the Natural Resources Secretariat (National Project) is capable of elaborating and implementing similar agricultural development projects in rural areas.

- The Regional Development Committee has been consolidated and is functioning in a dynamic matter, thereby assuring an adequate coordination of the different sectoral actions involved in the development of the sub-region.
- The Head Office of the National Project has been able to establish working relationships with the high decision-making levels of the Natural Resources Secretariat, thereby assuring a more dynamic interest in the Project, and in its imminent institutionalization.
- The national professional personnel has been adequately training in the implementation of agricultural development projects, attaining a high degree of team work, of concentrated, total and enthusiastic dedication as concerns the aims and objectives of the project.
- Specific sub-projects are underway in the sub-region, within the framework of the agricultural development project of the Marcala region; this was formulated and presented by the government to FIDA for possible financing – the project is presently being studied by FIDA.
- The diagnostic study of the socio-economic and human resources situations –including employment– of the area is being analyzed before results are included into the final report being prepared by the planning section of the Natural Resources Secretariat.
- The land tenure study of the Santa Elena, Yurula and Cabañas municipalities has been completed with assistance from the National Agrarian Institute, as well as a topographical survey of the area. The pertinent report is being prepared.
- The Socio-economic diagnostic study of the area for expansion has been completed, and will be published shortly.
- The evaluation of sub-projects underway, by means of technical reports on the different activities and in accordance with the criteria established by the Natural Resources Secretariat and IICA, has been carried out. As a result, the need for a methodology more in line with project dynamics was felt; this is being formulated.
- The following “campesino” organization activities were also completed:
 - promotional and training aspects in “campesino” organization were furthered in the primary production groups; courses on these aspects were given to 513 “campesinos” who participated actively in the events.
- Fifty-six producer groups in 6 municipalities were organized and consolidated.
- Preliminary studies have been made of factors influencing the organization and dynamics of the “campesino” organization process.
- An organizational strategy and methodology and an open model of communal organization, have been selected, with promising results in the first stage of implementation.
- In agricultural experimentation, work has been done on testing for the adaptation of corn, beans and potatoes. A technical report on the results of the 1977 agricultural campaign has been prepared, and follow-up activities programmed.
- The appropriate technological package was formulated for basic food crops (corn, beans and potatoes).
- The experiments planned for the 1978-1979 fiscal period are underway.
- The following production promotion actions were also carried out:
 - A report on the results of the 1977 promotional campaign has been prepared, including information on demonstration and commercial production plots, on soil conservation, small irrigation canals, the provision of technical assistance to farming groups and independent “campesinos”, and on agricultural credit for 1583 sacks of fertilizer for 600 “campesinos” from 65 organized groups.
- Fifty-eight demonstration lots in corn and beans have been set up in the project’s area for expansion.
- In addition, 8 demonstration lots on the use and conservation of soils have also been established.
- Work on rural home economics and family market gardens has been continued with the homemakers in 6 municipalities.
- Pasture demonstration lots have been set up with Star and Alice grasses, in 10 localities.
- Studies on a project to establish a dairy herd have been completed, for possible financing by

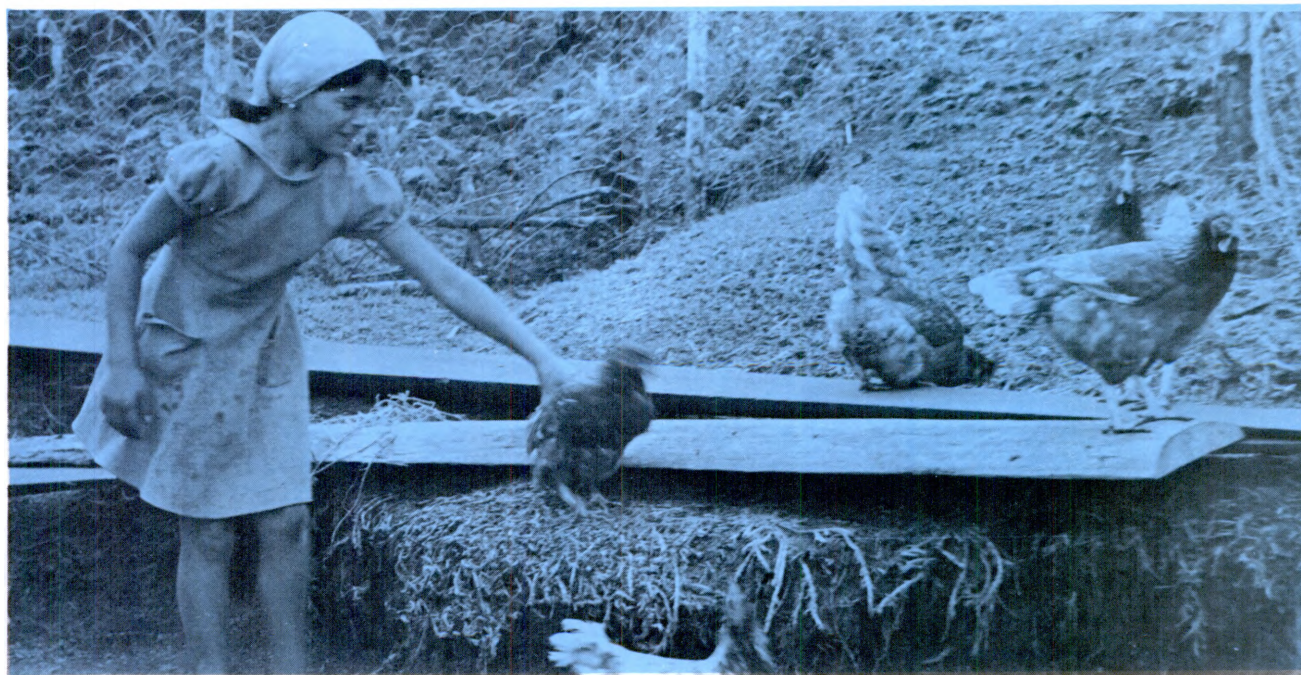
CONADEP, and a study on the production of broiler chickens by minifundia farmers—“campesinos”— has also been finalized.

- Four fish tanks have been built and two already producing tilapia (fresh-water fish).
- Technical assistance was given on the management of commercial areas in corn, beans and wheat, in order to use them as seed-beds.
- The following has been accomplished on inter-institutional organization:
 - the Regional Development Committee was re-activated, and bi-monthly meetings of the Board of Directors and monthly meetings of the Committee are now routine procedure.
 - It was possible to get 3 agronomists assigned by the Institute for Professional Training, INFOP, to the project area; they are giving practical and technical courses to the community groups.
 - The Project was also able to obtain the following from UNICEF and CONADEF:
 1. Financing to get into operation the exploitation of two chicken sheds for egg-layers; broiler chicken production; and the setting up of 4 apiaries, with four groups.
 2. The donation of material and small vegetable-farming equipment.

3. The donation of a Suzuki motorcycle.

4. Transportation of heavy equipment from different places to Marcala.

- Work is underway together with the National Social Welfare and Education Board. The field work has been integrated to the level of promoters and regional heads.
- Satisfactory levels of coordination and project integration has been possible, amongst the different programs of the Natural Resources Secretariat.
- Technical agreements have been subscribed with USAID, IDB, FAO and ACORDE.
- The internal organization and administration of the project is in the process of being institutionalized, as an operative entity of the Natural Resources Secretariat. A Manual on the Organization and Functions of the Project has been prepared and published, and is being implemented. The 1978-1979 Operative Plan was also prepared and has been approved at Headquarters. In addition, help has been provided on the formulation of a program-budget for 1979, for the National Project.



1. Project title

Strengthening the Agricultural Planning Institutional Sub-system.

2. Background information and problem definition

The government of Honduras is presently working on the preliminary stages of a 1979-1983 National Development Plan. Hopefully, by the end of this year, it will have been possible to complete the general guidelines leading up to the formulation of this Plan.

The Technical Secretariat of the Higher Economic Planning Council is working jointly with the pertinent executor entities on the analysis of problems of the agricultural sector, seeking the best possible solutions. A recent human resources and finances evaluation has indicated the need to substantially strengthen the Agricultural Planning Office of the Technical Secretariat so that it may, in effect, efficiently formulate the new Plan. In addition, it has been noted that linkages between the Agricultural Planning Office and the planning units of other institutions are somewhat deficient. Moreover, these planning units frequently suffer from the problem of poorly qualified human resources, and a lack of properly oriented activities. Besides, it would seem that a number of the sectoral agencies only partially adopt the orientations of the National Development Plan and hence compliance with Plan objectives is defective.

The Agricultural Planning Office of the Technical Secretariat and some of the planning units of other sectoral agencies have problems of a high turn-over of personnel, due partly to economic factors. At present, the Office has a number of recently incorporated professionals on their technical staff and in many cases, they lack specific training in planning aspects.

Although the COCO Technical Committee exists, with representatives of all the planning units of the sectoral agencies, it has not been possible to make an efficient, effective coordination instrument out of this Committee.

Even though the National Development Plan is established by executive decree, it is not adopted entirely by the executor agencies of the public agricultural sector due mainly to a lack of knowledge about the plan and the lack of follow-up actions.

This year, the government set up an Agricultural and Agrarian Reform Committee with the aim of improving institutional coordination aspects, to regulate activities and to accelerate Plan implementation aspects, as well as to establish agricultural policy bases for the new Plan.

As complementary actions, the governments has been reclassifying the technical personnel working for the Technical Secretariat of the Higher Economic Planning Council, and has sponsored, in collaboration with international agencies, several courses in order to train national personnel in planning aspects. However, the impact of these measures has reached only a reduced proportion of the personnel currently working with the planning units of public agricultural sectoral agencies.

In Honduras, there is a Planning Law which more or less clearly specifies the functions of each of the sub-system units. Nonetheless, the lack of political decision and technical personnel deficiencies partly explain the poor coordination and lack of efficiency of the planning sub-system.

3. General and specific objectives

- To upgrade national capability to formulate agricultural development plans and to assure adequate follow-up.
- To improve inter-institutional coordination aspects and to upgrade technical training levels of the staff working in the planning units of the sectoral agencies.
- To identify specific objectives.
- To cooperate on preparing the National Agricultural Development Plan for the 1979-1983 five-year period.
- To prepare teaching material on agricultural sectoral planning aspects.
- To cooperate on training technical personnel through the establishment of a permanent training mechanism.
- To cooperate on perfecting inter-institutional coordination mechanisms and on making them more functional.



- To cooperate on the establishment of an information and follow-up system within the National Development Plan.

4. Place and duration of project

Project will be centered on Tegucigalpa; project duration is 18 months.

5. Starting date

The project got underway in February 1978.

6. Beneficiaries

The direct beneficiaries of this project are the Agricultural Planning Office staff members who will be receiving in-service training on aspects pertaining to planning and project preparation.

7. Costs

The total cost of the project has been estimated at US\$ 61,600. The Fund will be contributing US\$ 30,000 and the rest will be financed with national funds and other contributions.

8. Participant organizations

- The Agricultural Planning Office of the Technical Secretariat, Higher Economic Planning Council.
- Sectoral Planning Office of the Natural Resources Secretariat.

9. Final Product

Insofar as the Agricultural Planning Office of the Technical Secretariat is concerned:

- The Agricultural Development Plan for the 1979-1983 period will have been prepared.
- The technical staff of this Office will have received training in planning aspects, and new personnel will receive special training upon entering.
- An information and follow-up system for the National Development Plan has been set up.

Insofar as the Sectoral Planning Unit is concerned:

- A "Plan" to implement progressive support from this Unit for the public agricultural sectoral units has been prepared.

- A significant proportion of the Sectoral Planning Unit staff will have received training in sectoral planning aspects.

10. Progress achieved

The main progress achieved to date on this project includes:

- a. Collaboration provided the Higher Economic Planning Council (CONSULPLANE) on the preparation of a first version of the National Development Plan for the Agricultural Sector for the 1979-1983 five-year period, which includes:
 - a diagnostic study
 - projections of the supply and demand situation
 - sectoral development policies
 - objectives, goals and strategies
 - the identification of programs and projects to be undertaken during the five-year period.
- b. Collaboration provided the Agricultural Planning Office (DPA) of CONSULPLANE on the elaboration of bases for a structural change policy for the sector, for the 1979-1983 National Development Plan.
- c. Collaboration provided the DPA of CONSULPLANE on the elaboration of bases for the development of a fisheries sub-sector, as part of the National Agricultural Development Plan.
- d. Collaboration provided CONSULPLANE and the Agricultural Policy Committee on the preparation of a sectoral operative program for 1979, which includes:
 - the formulation of a methodology and instruments (matrix) in order to establish common bases for annual operative programs for the executor agencies, at national and regional levels.
 - assuring compatibility of the operative program within the existing budgetary framework.
- e. Collaboration provided the DPA of CONSULPLANE on the elaboration and establishment of a system for the evaluation, control and follow-up of the national development plan for the sector.

- f. In-service training provided national counterpart personnel on aspects pertaining to the elaboration of the National Development Plan and the annual operative programs.
 - g. Collaboration provided on the coordination of CONSUPLANE's DPA with the planning units of the executor agencies of the sector, heads of programs and regional agricultural offices.
 - h. Cooperation provided the Natural Resources Secretariat, the Agricultural Policy Committee
- and the Regional Agricultural Committees on the coordination and integration of services at regional levels. This includes:
- an analysis of the operations of the regional agricultural committees (Center-East and Northeast).
 - Training in necessary techniques for planning regional rural development, in Israel.

Jamaica



Jamaica



1. Project title

Study and Implementation of Agriculture in Mountainous Zones (Allsides Development Pilot Project).

2. Background information and problem definition

Over the past five years, the government of Jamaica has been emphasizing the importance of the conservation of limited national natural resources. Approximately 80% of the country is mountainous, and is inhabited by small farmers which cultivate the area. It has been estimated that approximately 186,000 farmers own about 557,000 acres of mountainous terrain, but 70% own less than 5 acres each, and the land must be rehabilitated and developed.

The Ministry of Agriculture has started to work in the area of conservation and management of land and waters. IICA is cooperating on this program, and has started work in a selected pilot area called Allsides. The project to develop agriculture in Allsides is considered an immediate phase of the national program which aims at the proper utilization of rehabilitated areas, through the development of an agricultural production and marketing system for mountainous regions.

3. General and specific objectives

To cooperate with national organizations on:

- Developing techniques to cultivate mountainous areas, to serve as substitutes for traditional cultivating practices.
- Disseminating the new techniques throughout all the area.
- Extending the results obtained at the pilot area, throughout the whole region.
- Developing a new production system based on multiple cropping and the efficient utilization of water and land resources.
- Increasing the productivity and production of certain basic products (cassava, beans yam, and others).
- Increasing food production and incomes, improving nutritional levels and raising the standard of living of approximately 300 farming families on 622 acres of mountainous terrain in the Trelawny district.



- Developing an institutional framework so as to ensure the implementation of similar changes in other areas of the country.
- Conducting economic studies related to small farmer production in mountainous areas, including the costs of soil conservation.
- Training professionals and local producers.

4. Place and date of project

The Allsides pilot area, is located within the Trelawny district. Project duration is three years.

5. Starting date

The project got underway in February 1977.

6. Beneficiaries

Approximately 300 farmers will benefit from the project, in addition to the technical personnel working on the project, who will be trained in the pertinent aspects.

7. Costs

The Fund will contribute US\$ 100,000 and the government of Jamaica will contribute the equivalent of US\$ 114,280, during the second year of operations.

8. Participating organizations

The Ministry of Agriculture particularly the Soil Conservation Unit, will be participating in this project together with IICA.

9. Final Product

Expected achievements by the end of the project are:

- The development of a production systems technique (agricultural or animal husbandry) for mountainous terrain, to serve as a substitute for the present traditional system.
- The development of an institutional infrastructure capable of producing similar changes in other parts of the country.
- To raise the standard of living of families living at Allsides, increasing food production and income (from US\$ 670 to US\$ 1,500 a year) by the end of the project.
- The total rehabilitation and the efficient management of 622 acres in the Allsides area, inhabited by 300 farming families, by means of:

- the conservation of 335.95 acres of land
- 335.95 acres with canals
- 200.00 acres with canal and ditch controls

10. Progress achieved

The most important accomplishments in the second year of this program, may be summarized as follows:

- The organization of a working group which started on the formulation of a development project for hillside farming.
- The development of a methodology for the formulation of a national program to utilize reclaimed lands.
- Cooperation provided on the formulation of a national program; on the definition and application of criteria for the selection of areas for the implementation of the first stages of the program.
- A diagnostic study of the agricultural systems of the Allsides Project and neighboring areas; socio-economic studies and an analysis of the present situation of farmers in the area.
- The establishment, maintenance, observation and use of demonstration plots, as per the operative program.
- Strengthening the Project's operative unit in programming, coordination and administrative aspects.
- Training personnel in hillside farming techniques and the transfer of technology.
- Six technicians trained in order to form a solid working group to work on the USAID/GOJ Rural Integrated Project, as Jamaica's counterpart.
- The preparation of a publication entitled "Diagnostic study of the agricultural system in Jamaica".
- This document has been circulated at all institutional levels, to both national and international agencies; the document contains a number of the basic working papers for Project action in the country.
- The preparation of another publication "National Program for Agricultural Development in Jamaica" which contains goals, strategies and recommendations for the implementation of the National Program.

- A publication of 470 pages containing the material needed to offer a course to train national farmers.
- The design and definition of alternatives for farmer organizations.
- A marketing study of the main products from hillside farms.
- The definition and application of criteria for the selection of areas for the first stages of the national program.
- Cooperation provided on increasing current capability in national research, on the development of facilities and on the implementation of agricultural systems in the country.
- The organization of a new operative unit in selected areas, of future use for the expansion of the national program.

Mexico



Mexico



1. Project title

Feasibility Study to Foster the Production, Processing and Distribution of Improved Seed in the Tropical Areas of Mexico.

2. Background information and problem definition

The agricultural sector of the country has been unable to meet the growing demand over the past several years, for basic grains and oil-producing products.

With the aim of overcoming possible food deficits, the government of Mexico is fostering agricultural production throughout the country, including tropical regions, both irrigated and rainfed, based on the incorporation of new areas and a more efficient utilization of production factors. It has been estimated that approximately 700,000 Ha of corn have been planted this year during the spring-summer season in one of the tropical regions encompassing the State of Veracruz and parts of Tabasco and Oaxaca. This is a region which has traditionally been marginal to any agricultural production technological advances, and the use of certified improved seed is low.

Amongst the more important factors conducive to this marginal situation are:

- Inadequate infrastructure (such as processing plants, warehouses, and others) to assure self-sufficiency in certified improved seed for the tropical regions of the southeast.
- The lack of producer associations, with respect to the production, distribution and marketing of improved seed.
- Distance from input supply centers, and the high distribution costs of same.
- The utilization of inadequate agricultural practices.

As a result of the above, the National Seed Producer (PRONASE) and the Secretariat of Agriculture and Hydraulic Resources (SARH) are expanding their programs to encourage the production of improved seed of basic food and oil-producing crops, and some forage plants, for the State of Veracruz; these may be extended later to supply the whole southeast of the country.

3. General and specific objectives

The general objective of this project is for IICA to cooperate with PRONASE and SARH on the formulation of a feasibility study to foster the production, processing and distribution of improved seed for the tropical areas of Mexico.

More specifically, the immediate aims are:

- To determine the demand for improved seed in corn, beans, soya, sorghum and rice in Veracruz State, and the potential demand throughout the southeast of the country.
- To determine necessary changes and additions in buildings, equipment and industrial flow, so as to assure an efficient, profitable process, utilizing existing, advanced technologies for the tropics.
- To design programs oriented towards the creation or strengthening of seed producer associations, to produce, market and distribute the seed needed throughout the region.
- To develop alternative distribution and marketing systems for improved seed, with the aim of overcoming constraints limiting their use and availability.
- To design production and credit-technical assistance plans for improved seed producer associations.
- To structure the personnel organization and design training programs in production, the management and operation of processing plants and the distribution of improved seed.
- To create the institutional mechanism needed for the eventual implementation of the feasibility study.
- To conduct technical, economic and financial evaluation studies of the project.

4. Place and duration of the project

The seed processing plant to be expanded, is located in Tierra Blanca, Veracruz State. The geographic area for the production and use of the improved seed is located in the States of Veracruz, Tabasco and Oaxaca, in the following regions: Córdoba, Veracruz, Piedras Negras and Joachín; Tierra Blanca, Tres Valles, Los Naranjos and Cosamaloapan; Villa Azueta, Playa Vicente, San Andrés, Tuxtla and Acayucan; Minatitlán, Coatzacoalcos and Los Chopos;

part of the north of Tabasco State; Loma Bonita, Tuxtepec and Valle Nacional in the State of Oaxaca. The feasibility study will be carried out over a period of four months.

5. Starting date

The project was started in August 1977.

6. Beneficiaries

Eight hundred and fifty farmers—small owners and “ejido” dwellers—will be the direct beneficiaries of these seed production activities. However, an estimate has been made of 20,000 farmers, potential direct beneficiaries of the improved seed that is produced. These farmers cultivate an area of 1.8 million hectares within the district described above.

Indirect beneficiaries, of the increased production and productivity of basic food and industrial crops, includes the whole population working in these activities in the municipalities of the States of Veracruz, Tabasco and Oaxaca.

7. Costs

The Project costs US\$ 60,000 with the Simon Bolivar Fund contributing US\$ 40,000 and the country the equivalent of US\$ 20,000.

8. Participant organizations

IICA has assigned a Projects Specialist and Consultants in Training, “Campesino” Organization and Improved Seed Production aspects; PRONASE and SARH are providing information as well as the necessary counterparts, and have established the needed linkages with all agencies participating in the program.

9. Final product

At the conclusion of the project, a feasibility study will be available on fostering the production, processing and distribution of improved seed in the State of Veracruz. In addition, the design of an industrial plant and of altered and adapted storage facilities was obtained, to facilitate the more efficient handling of seed in tropical areas.

Personnel is being trained in aspects pertaining to the management and operation of processing plants, and the production, warehousing and preservation of seed.

10. Program achieved

- A report of the completed study, with detailed annexes, was handed in to SARH.

- Study methodology utilized was as follows: organization of the working group; structuring the project's conceptual framework; compiling the necessary information and analyzing it; presentation of conclusions and recommendations.

Summary of work accomplished.

a. Analysis of the problem.

- i. The nature of the problem was analyzed, particularly with respect to the supply and demand of basic grains at the national level, and to the need for estimating the impact of producing and using improved seed.

**SUPPLY OF BASIC GRAINS
(in millions of tons)**

Crop	1975	1982	%
			necessary annual increment
Corn	8.5	12.5	5.7
Beans	1.0	1.2	2.3
Rice	0.8	0.8	-

- ii. A diagnostic study was carried out of the regional marketing situation for improved seed, and of the existing and potential volume of seed in the project's area of influence (Veracruz, Tabasco, Oaxaca).

USE OF EXISTING AND POTENTIAL SEED - TONS

Crop	1977 existing	1978 estimate	1980 estimate
Corn	1,908	2,607	3,000
Beans	225	531	600
Rice	1,225	1,346	1,600

- iii. Project studies on the following aspects were completed:
 1. Production programs
 2. Organization of producers
 3. Training programs
 4. Seed marketing system
 5. Adaptability of improved seed
 6. Basic project engineering aspects
 7. Necessary investments
 8. Results (balance statement)
 9. Financial evaluation

b. Conclusions and recommendations

i. Production programs

- In order to produce the necessary seed, it was suggested that a special program be started with a well-trained technician, and that a processing plant be built.
- In order to produce certified seed, it was recommended that only the volume of seed needed for the area be produced and then distributed: 60% in the autumn-winter cycle and 40% in the spring-summer farming cycle. The farmers would be selected and trained for this purpose.

ii. Organization of producer associations

- A strategy is suggested for the producer associations, limiting first stage activities to backing production aspects with the idea of assuming seed processing, distribution and sale functions at later stages.

iii. Training programs in the following areas are suggested:

- Seed production, adaptation of varieties; seed technology;
- quality control; management and operation of processing plants;
- marketing of seeds.

iv. Improving the seed marketing system

- a model is proposed for the organization and utilization of entrepreneurial criteria to maximize production aspects and sales.

v. Adaptability of improved seed

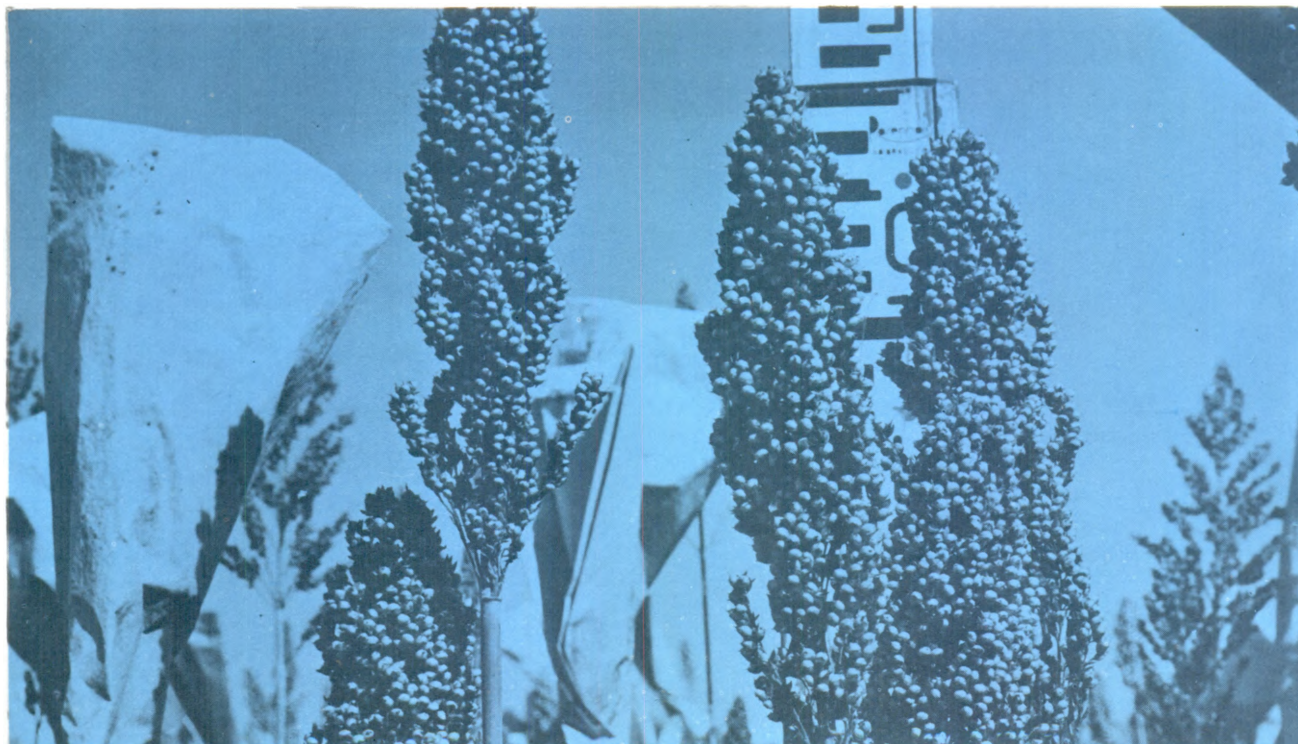
- a basic program for the adaptation of new varieties is proposed, with the aim of assuring increased use of improved seed.

vi. Basic project engineering aspects

- Essential modifications needed are; to increase installed capacity and to select the machinery and equipment to assure proper seed storage, including the following aspects:

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. Processing line for basic seed. 2. Processing line for registered and certified seed in rice, beans, corn, soya and sorghum. 3. Reception, drying and bulk storage in vertical silos. 4. Drying system for seed in sacks. <p>— Additional buildings needed:</p> <ul style="list-style-type: none"> 1. A Training Center 2. A Quality Control Laboratory. | <ul style="list-style-type: none"> — Operating capital <u>41,017</u> <li style="text-align: right;">TOTAL 80,242 |
|--|--|
- vii. Necessary investments (stated in millions of Mexican pesos*) investment estimates are based on requirements for handling 3,000 tons of corn; 600 tons of beans and 1,600 tons of rice.
- | | |
|-------------------------|--------|
| — Fixed investments | 39,225 |
| Machinery and equipment | 19,782 |
| Vehicles | 560 |
| Engineering works | 18,882 |
- viii. Proforma balance statement for 1980
- 1. Estimated net profit — 6.5 million pesos
 - 2. Break-even point: sales of 22.9 million, on annual sales of 52.7 million pesos
- ix. Financial evaluation
- cost-benefit relationship 1.34
 - Return on investments 15.8 %
 - Internal rate of return 10.4 %
- x. The expected economic impact for the region:
- an increase in seed production of 87.2% (from 2,700 to 5,000 tons).
 - An increase of 78% in grain production (from 251,000 to 446,000 tons).

* 1 US\$ is equivalent to 22.50 Mexican pesos.



Nicaragua



Nicaragua



1. Project title

Provision of Support on Sectoral Planning and Management Aspects so as to Increase Food Production.

2. Background information and problem definition

An integral diagnostic study of the agricultural sector of Nicaragua, carried out in 1972-1973, indicated the need for institutional-type adjustments, particularly in aspects pertaining to organization, financial administration, coordination, evaluation and control, as well as in the area of project planning and preparation. The study also revealed low production and productivity of food and raw material of agricultural origin.

3. General and specific objectives

The general objective of this project is in line with No. 5 of the National Rural Development Plan for 1975-1980, dealing with the need to increase food production.

To attain this general objective, the project will concentrate on technical cooperation aspects of institution building within the public agricultural sector

(SPA), collaborating on the implementation of a restructured institutional system within the sector, and on the improvement of the services provided by this system. Also contemplated are: the creation and strengthening of the planning units in certain sectoral agencies; the design of training in planning, management and project preparation; and lastly, cooperation on the preparation of specific food production projects.

4. Place and duration of project

The project will be directed from Managua, Nicaragua, will include 90 technician/months, and should be finished by June 30, 1979.

5. Starting date

The operating agreement for this project was signed in September 1976, and project activities got underway in October of that same year.

6. Beneficiaries

The direct beneficiaries of this project are the Ministry of Agriculture and Animal Husbandry (MAG) and SPA agencies. Indirect beneficiaries would be the current and potential farmer-users; and the population in general, with more food available.



7. Costs

The total cost estimated for the second year comes to US\$ 269,634 of which the Simon Bolivar Fund will be contributing US\$ 100,000 and Nicaragua US\$ 169,634.

8. Participant organizations

In addition to IICA, the following organizations are participating on this project: the Ministry of Agriculture and Animal Husbandry (MAG), the Agricultural Sectoral Planning Office (DIPSA), the Nicaraguan Agrarian Institute (IAN), the National Training Center (CENCA), the Nicaraguan Agricultural Technology Institute (INTA) and other planning units in the sector.

9. Final product

The following accomplishments are expected by the end of the project:

- Programming units will have been strengthened, at the institutional level, as well as the linkage mechanisms with sectoral (DIPSA) and national planning (National Planning and Budgets Office).
- A workable sectoral training system will have been established, to train approximately 100 staff members by means of formal courses and in-service training.
- The management and financial administration systems of the institutions will have been strengthened, so as to assure the improved quantity and quality of services provided.
- Operable methodologies for the institutions will have been established, on the selection, preparation and evaluation of projects, and cooperation provided on the application of selected specific projects.
- Strengthened capability to transfer knowledge at the institutions, by means of manuals, methodology instructions etc., in main project areas.

10. Progress achieved

- Cooperation was provided on the preparation of a financing project for INTA, with the aim of up-grading the physical infrastructure and training and technical cooperation aspects in research, dissemination of information and higher agricultural education. In this fashion, 20 technicians were trained.
- A survey was taken to determine the training requirements in the public agricultural sector, to serve as a basis for programming CENCA activities.
- Cooperation was provided in the areas of institutional development, expenditures and financing, by giving a course on the Preparation and Evaluation of Agricultural Projects (PEPA). Sixteen functionaries were trained.
- A working program was structured, together with DIPSA, IAN and the National Planning Office on institution building aspects at IAN, particularly with respect to up-grading its operative capability in colonization and agricultural production projects in development regions.
- Support was provided DIPSA on a study of sectoral planning functions and its relationship with other sectoral agencies.
- Support was provided IAN on upgrading its programming and studies department.
- Support was provided INTA on the organization and getting underway of its Planning Office.
- Support was also provided INTA on the establishment of a system of operative plans and budgets, on a program basis.
- Support was provided CENCA on structuring its training programs.
- Technical cooperation was provided IAN on the definition of its institutional role, and as a result, of its institutional structure.

Panama



Panama



1. Project title

Technical Cooperation on Planning Agricultural Production Associative Enterprises.

2. Background information and problem definition

Since 1969, the government of Panama has been fostering a policy to establish organized groups of agricultural producers. Within the framework of this policy, so-called "campesino" settlements and Agrarian Production Boards were organized to facilitate a better distribution of income on the one hand, and "campesino" participation on the other, both in modern agricultural production *per se*, as well as in other national political, economic and social aspects.

Two hundred and seventy-six enterprises – either settlements or agrarian boards – have been established since 1969, and are in varying stages of development due to a number of factors, such as the time of establishment, the quantitative and qualitative nature of the members, resources available, and others. At present, government policy is to implement an entrepreneurial system so as to facilitate the consolidation of these groups as productive enterprises that may make the best and most rational use of available resources as an essential basis to ensure definitive incor-

poration of "campesinos" to the economic and social life of the country. This entails considerable attention being given to certain aspects, such as:

- a clear awareness of available resources.
- the most rational manner of planning their use
- and adequate utilization of technologies
- a registration and control of the use of production factors, and the evaluation of technical and economic results obtained.

The "campesinos" still lack the ability to make decisions pertaining to management aspects of their enterprises. Hence, there is a need to adopt an administrative system of simple and objective application, so as to facilitate the proper management of these enterprises, and to serve as an incentive to the "campesinos" themselves, to make their own business decisions. A technical team at the Ministry of Agricultural Development (MIDA) is therefore needed, to implement and train functionaries and "campesinos" in those actions oriented towards improving the planning methods at the enterprises.

The National Production Office, the National Sectoral Planning Office and the Department of Enterprise Management of the National Social Development Office, all of MIDA, have been working on improving annual planning systems as well as on the establishment of a single registry system for enterprises of organized groups of "campesinos".

In May 1976, an agreement was signed in Washington D.C. between IICA and MIDA for the implementation of a "Technical Cooperation Project on Planning Agricultural Production Associative Enterprises".

3. General and specific objectives

The general objective of this project is to collaborate with the Ministry of Agricultural Development (MIDA) on specific actions oriented towards improving the technical, economic, administrative and social aspects of the Agricultural Production Associative Enterprises, including the adoption of necessary mechanisms to assure appropriate planning at these enterprises, as a function of resource characteristics and availability.

More, specifically, efforts will be made to assure that:

- MIDA implement perfected exploitation plans, and through them, assure the adequate planning of activities at the enterprises, as a function of available resources.
- MIDA establish a mechanism whereby follow-up, control and evaluation of plan implementation can be assured.
- MIDA implement selected methodologies to obtain overall information concerning input and credit needs, at regional and national levels, for each agricultural year.
- MIDA perfect its training, programs for technicians and beneficiaries of the agrarian reform process, in aspects pertaining to the planning and management of agricultural producer associative enterprises.
- The Social Development Office of MIDA be strengthened, so as to adequately fulfill its function of coordinating inter-institutional actions oriented towards consolidating the agricultural producer associative enterprises.

4. Place and project duration

Project actions are at a national level, since the enterprises involved, and the work to consolidate them

from an administrative point of view, are scattered throughout the country. Project duration is 22 months.

5. Starting date

The project got underway in September 1976.

6. Beneficiaries

Organized producers, the Associative Enterprise settlers and the National Social Development Office – at both the national and regional levels – will benefit from this project.

7. Costs

Project costs for the second year are estimated at US\$ 288,649 of which IICA, through the Simon Bolivar Fund, will be contributing with US\$ 103,079 and the government of Panama, through MIDA, with US\$ 185,570.

8. Participant organizations

The following agencies will be participating in this project:

- The Ministry of Agricultural Development, through its National Social Development Office and its respective Business Management, Organization and C.I.M.I.D.A.C.E Departments. This Office will also be providing technicians to implement the project.
- The Agricultural Development Bank, through credit management for organized enterprises. This agency will also back-stop the program by providing information and contributing with one professional on the project.
- The Regional MIDA Offices will participate with technicians from the respective regions, for work in these specific regions.

The Agrarian Reform Office – Cadastral Department – by means of surveys and studies of areas considered to be of priority for the project.

IICA, through its Simon Bolivar Fund, will provide technical cooperation on this project, hiring specialists for the purpose, and with the support of the IICA staff members located in Panama.

9. Final product

By June 30, 1978, the following accomplishments are expected:

- Ensure that the Departments of the Social Development Office have the capability of coordinating the preparation, analysis and evaluation of the exploitation plans for Agricultural Production Associative Enterprises.
- The establishment of adequate registry systems for the activities undertaken at the settlements.
- Train at least 250 farmers in the management of production planning instruments.
- Install a computer system so as to have all information concerning the exploitation plans available, in accordance with national needs.
- A team of technicians installed at the Social Development Office, to train farmers from the associative enterprises.

10. Progress achieved

Advisory and training services.

- Operative Plan activities were carried out, as concerned the diagnostic studies of the associative enterprises in the different regions of the countries. The basic work was undertaken by social coordinators who were back-stopped by staff from the Central Plant, and was carried out in coordination and under the advisory services of IICA technical staff located in Panama.
- The training program for the associative farmers got underway in July 1977 and ran for six months. Courses were given at both the Regional Instruction Centers and the "Campesino" Settlements. A number attending the courses were selected, on the basis of training or teaching qualities, in order to go into the field to teach the "campesino" farmers and rural workers.
- The following entities benefited directly from the training provided (and at the same time they

participated actively): the National Social Development Office and the Social Development Departments of the MIDA regions; the associative enterprises and the Agricultural Development Bank. Bank personnel participated directly, imparting methodologies and acquiring in-depth knowledge on the economic and financial situation and perspective of the associative enterprises.

- Activities currently underway are being implemented with the aim of defining the appropriate methodology for carrying out diagnostic studies of the human, physical, social and economic resources of 60 associative enterprises, selected on the basis of experience acquired to date. These studies will serve a double purpose: i) to acquire realistic information about the qualitative and quantitative aspects of the resources which the enterprises have available in order to plan their actions based on what they actually have; and ii) to identify the intrinsic problems and situations at these enterprises. Work accomplished actually surpassed expectations as studies were completed for 62 enterprises, scattered throughout the country.
- Ten additional studies requested at a later date, are currently being carried out.
- The information has been consolidated at a national level, in the case of the Santiago de Veraguas and Panama projects. Work undertaken in these areas now permits that MIDA, the Agricultural Development Bank, the technical inputs supply houses, the Agricultural Marketing Institute and the Agricultural Cooperatives (COAGRO) have the necessary information available six months ahead of time as to the technical input and financial needs for the following year.

Paraguay



Paraguay



1. Project title

Associative Agricultural Production Enterprises with Paraguayan Armed Forces Conscripts.

2. Background information and problem definition

The Rural Welfare Institute (IBR) is responsible for the implementation of agrarian reform and colonization programs in Paraguay, and uses the operative mechanisms of colonies divided into individual lots, for settlement purposes.

The IBR and the Armed Forces of the nation coordinate their efforts by means of complementary programs where the civic action capability of the Armed Forces is mobilized, in view of a permanent interest in perfecting the means to implement and accelerate agrarian reform and colonization programs. The Ministry of Agriculture and Livestock also participates in these joint actions, to ensure the integral development of the population to be benefited by the Program, which is directed by an Administration Council.

To this end, then, a National Colonization Plan with Armed Forces Conscripts was prepared, thereby complying with the provisions of the Agrarian Statutes

and in accordance with Article 131 of the National Constitution, which states: "The State will encourage national youth to be interested in agricultural tasks, especially amongst those citizens completing their obligatory military service, and go back to form a part of the rural population".

This National Colonization Plan will be a valuable experience on which to base other future actions of broader scope, in addition to providing increased well-being for the plan's immediate beneficiaries, due to the integral nature of its programs.

The Council elected to initiate colonization actions within this program, with agricultural production associative enterprises. It was also decided to set up a settlement project in the Gral. Bernardino Caballero area, on 40,000 ha.

3. General and specific objectives

The general objective of this project is to back-stop the Military Colonization Office on the preparation and implementation of an associative production enterprise system so as to assure increased agricultural production and productivity and the improved well-being of rural man.

Once the benefits of the system have been tested and proved, it may be recommended as a viable alternative within the colonization and agrarian reform process, for possible adoption.

Project aims are to:

- Establish five associative enterprises, with approximately 100 families in each. It is hoped to be able to establish one enterprise a year.
- Assure the adequate functioning of second-level structures, associating these enterprises with the objective of providing more efficient and less costly common services.
- Prepare a feasibility study to obtain outside financing for the development of associative enterprises in the Gral. Bernardino Caballero Colony.

More specifically, cooperation will be provided the Military Colonization Office, so as to:

- Foster, plan and operate associative enterprises—and the internal units and second-level organizations which are a part of them—including the adequate planning of necessary physical and social infrastructures.
- Formulate and implement a training program for the conscript-colonists and technical personnel, while supporting research and training endeavors of interest to national agencies within the project area.
- Create and operationalize the rules, regulations and manuals to regulate and govern the functioning of associative enterprises, their internal units and other component structures.
- Design inter-institutional coordination mechanisms within the project area, and ensure their implementation.
- Form an inter-institutional and inter-disciplinary professional team to prepare a feasibility project for the Gral. Bernardino Caballero Colony settlement.
- Train each group of project beneficiaries and their families in associative enterprise administration aspects, so that they may assume the pertinent responsibilities and participate in the management of their respective enterprises, as soon as possible.
- Disseminate information obtained on the basis of project experiences, at national and international levels.

4. Place and duration of project

The project is located in the Gral. Bernardino Caballero Colony in the Department of Canendiyú, and encompasses an area of 40,000 hectares. Project duration is five years.

5. Starting date

Project activities got underway in July, 1976.

6. Beneficiaries

The conscripts and families taking part in this project will be the direct beneficiaries, as will the National Colonization Commission of the Armed Forces, since it will have results of a feasibility study of 40,000 hectares readily available.

7. Costs

The total cost of this project, over the five year period, is US\$ 956,100. The Simon Bolivar Fund will contribute US\$ 99,525 for the second year of activities, and the country will contribute with the equivalent of US\$ 107,800.

8. Participant organizations

The National Colonization Commission of the Armed Forces of Paraguay and IICA will be participating on this project.

9. Final product

There will be five associative enterprises operating in the Gral. Bernardino Caballero Colony by the end of this project, each one comprised of licensed* conscripts and their families.

These licensed conscripts and their families, organized into associative production enterprises, will have been trained so as to efficiently take charge of their enterprises.

A feasibility study of the area will have been completed, as part of the means to obtain financing for the development of the colony's associative enterprises.

* Licensed conscript: in Paraguay, one who has completed his obligatory military service and has returned to civilian activities, but is still on call by the army.

10. Progress achieved

a. Preliminary actions

The field operations in the zone selected for settlement purposes were initiated on July 14, 1976, with the help of two Lt. agricultural engineers, auxiliary staff and 71 conscripts of the armed forces, and with the advisory services of IICA specialists living in the Gral. Bernardino Caballero Colony. This group was able to condition about 55 hectares of land by October of the same year, planting 43 hectares with different crops from which a first income of G 1401,500 has been obtained.

In October, 47 of the conscripts completed their tours of duty so that there were only 24 conscripts at the Military Post (belonging to the Agricultural Services Bureau of the Armed Forces) until March 1977, when 78 new recruits of the 1977-1978 contingent arrived. This new working force was able to reclaim or condition an additional 102 hectares during 1977.

b. Participative actions

Project training activities included courses, working meetings, assemblies of the member-participants and sessions of the Administrative Council where different topics were discussed, with the aim of improving the training approaches. Events were grouped into the following areas:

- training in agricultural technology.
- training in organization and administration of cooperatives.
- literacy training.
- working meetings with conscripts.

c. Completed studies

To date, the following project studies programmed for the 1976-1978 period have been completed:

General Bernardino Caballero Colony Studies

- Soil resources survey.
- Survey of forest resources.
- Preliminary study of available human resources.

- Study of current land-use practices.
- Physical facilities of the Colony - an inventory.

Studies related to:

- The evolution of military colonization in Paraguay.
- Impact of colonization on the national and sectoral development processes.
- Marketing studies for some of the agricultural products of interest for the military colonizations.
- Associative enterprise - a basic model.
- Rules of Procedure for Elections: A Model.
- A model for work regulations.
- Training plan for assuring the participation of the conscript-colonists.
- A program for participative action.
- Determining and proposing alternative agricultural production systems.
- Technical-financial programming for the first associative enterprise, and a request for credit.
- The organization of the first associative enterprise.
- The main functions of the directive entities and members of the first associative production enterprise with Armed Forces conscripts.
- Social status of the Roberto González Ltd. Agricultural Production Cooperative.
- Organization of a Consumer Store on the first associative enterprise.
- Beef cattle project.
- Dairy cattle project.

d. 1977-1978 Planting Plan

The project's planting plan for the 1977-1978 period included soy beans, rice, peas, corn, cassava, pastures, fruit crops and others, over an area of about 75 hectares.

Part of this area is worked by hand and another part with agricultural machinery, in both cases with the dual purpose of practical as well as experimental application.

Funds from IICA's Simon Bolivar Rotating Fund, contributions from the Military Colonization Office and a sum of G. 1,277,500 as part of the loan for G. 2,600,000 granted by the Agricultural Credit Bureau for the Rehabilitation of Paraguay helped finance the operating costs of this project.

Moreover, actions were stepped up in relation to the administrative and organizational aspects of the Cooperative.

On October 15, 1977, the population center hosted the ceremony officially inaugurating the Cooperative, and a grain deposit with a capacity of 300 tons, seven homes built by the conscripts themselves and the distribution of cash prizes for the conscript-members of the cooperative as well as for the conscripts who were returning to their

homes after completing their military service in the enterprise.

- The cooperative has 10 members at present; 2,000 hectares of arable land; 12 homes where the members live and a light generator for the population center. It owns a thrashing machine, four sprayers and numerous smaller agricultural and carpentry tools. In addition, a consumer store is already in operation.
- The cooperative will still have the help of the 78 conscripts from the 1977-1978 contingent up to October of this year, when they complete their tours of duty. At that time they may voluntarily elect to become members of the cooperative.
- The housing plan contemplates the construction of an additional 40 houses, so that each member of the cooperative will have his own home, from the beginning, in which to house his family.

SOME QUANTITATIVE INDICATORS AND THEIR EVOLUTION OVER TIME

Indicators	1976 Abr.-Dec.	1977 Jan.-Dec.	1978 Jan.-Abr.	TOTAL
Studies completed	9	17	-	26
National consultants	1	12	-	13
Foreign consultants	6	2	-	8
National technicians - military and civilian - assigned to the project	(3)*	(3)*	4	4
IICA staff members assigned to the project	(3)**	(3)**	3	3
Trained conscripts	334	390	346	1,070
Conditioned land - manually reclaimed (ha)	44.0	-	-	44.0
Conditioned land - reclamation with ag. machinery (ha)	-	60.5	-	60.5

* In 1976, three technicians were assigned to the project, and continued over into 1977. In 1978, the number was raised to four.

** Two resident technicians in the zone and one coordinator in Asunción.

Peru





1. Project title

Fostering the Agroindustrial Production of Quinoa in Puno.

2. Background information and problem definition

One of the basic problems of the food sector is low food production and dependence on foreign sources for basic food products and raw material. There is also a serious caloric disorder or lack of balance in nutritional levels, which is accentuated in the Puno sector of the country.

Therefore, the basic objective of the Development Plan for the food sector is to raise the food and nutrition levels of the Peruvian population, in function of the planned agricultural production of native crops and a restructuring of consumer patterns. Quinoa has been considered a product which could help accomplish these objectives at regional and national levels, since there are 12,000 acres of this crop already being cultivated and there is an estimated potential for 45,000 additional hectares.

3. General and specific objectives

The main objective of this project is to collaborate with the Food Ministry on preparing a feasibility

study for quinoa production in Peru, and to provide this Ministry with support on its actions directed towards improving quinoa productivity in the Puno area. The project includes actions in the areas of production, research (preparing technological packages); the transfer of technology, and product processing and marketing.

4. Place and duration of project

The project is located in Puno and project duration is two years, which may be extended, depending on the results of the feasibility study.

5. Starting date

The project got underway on 1 September 1977.

6. Beneficiaries

The direct beneficiaries of this project are the producer members of the Puno "campesino" enterprises. Indirectly the inhabitants of the rural and urban areas of Puno, and for that matter of the country in general, will also benefit from this project. The Food Ministry will profit from the project by having available the results of a feasibility study.

7. Costs

The Simon Bolivar Fund will contribute US\$ 104,522 to the project, and the Food Ministry will contribute with the equivalent of US\$ 205,700, to finance those actions oriented towards improving quinoa production and productivity.

8. Participant organizations

In addition to IICA, the Food Ministry, the Head Offices of Sectoral Planning, Production, Marketing and Research; Agrarian Zone XII, the Technical University of the Altiplano and the Agroindustrial Research Institute will be participating in this project.

9. Final product

The feasibility study should be completed by the end of this project, at least on the following aspects:

- Present supply and demand for quinoa.
- The economic aspects of purchasing and selling the product, including price changes.
- Marketing, or the physical aspects of moving quinoa from producer to consumer.
- Crop profits as compared to other crops and production items in the zone (sheep, etc.).
- Cropping systems which include quinoa.
- Study of technologies used in the existing agroindustry.
- Determination of future appropriate agroindustry technologies.
- Institutional and policy aspects, as required to develop this crop.

Within those actions oriented towards improving crop production, efforts will be made to foster the

cultivation of this crop on 5,000 hectares owned by 30 “campesino” enterprises; to increase productivity from 400 to 1,500 kilos per hectare; to plant about 100 hectares for the production of improved seed and make it available to the “campesinos”; and the marketing and industrialization of production.

10. Progress achieved

Principal project accomplishments to date are as follows:

a. In production

- The pre-investment study to foster the agroindustrial production of Quinoa was formulated, and has been revised by the Peruvian Government. This will later become a feasibility study for the General Production Bureau of the Agriculture and Food Ministry.
- A program for the transfer of Quinoa technology was organized and developed. The government was given assistance on aspects pertaining to methodological procedures for the consolidation of quinoa “core” producer groups in an area of approximately 4,500 hectares belonging to a number of “campesino” enterprises with about 1,000 participating members, attended by seven agents specialized in quinoa cultivation and the regular number of Agriculture and Food Ministry personnel for the area.
- Technical cooperation was provided on the organization and development of courses, technical meetings, experimentation and preparing audiovisual material for the same Quinoa technology transfer program.
- The organization and getting underway of a Program of Official Seed Producers on 150 hectares with 8 farming agencies, particularly in the area of the Julínaca agency. The seed selection of Sajama, Kanccolla and Blanca de Julí varieties is presently being carried out, with financing from the IICA Simon Bolivar Rotating Fund, a UNICEF rotating fund and a similar type of fund at the Ministry of Agriculture and Food. Loans for seed, inputs and necessary technical assistance, financed with these funds, have been granted to local participant seed-producers, as a means of guaranteeing the quality of the final product.

b. In research

- The Quinoa Germplasm Bank is being maintained and the material evaluated. Nine hundred and five Quinoa introductions have been planted: 622 to duplicate the bank maintained by the National Technical University of the Altiplano in Puno; 166 from an improved collection in Bolivia; and 117 from around the areas of Huanca-yo and Ancash. A total of 800 lines have been planted for evaluation purposes. A system of control of these lines has been set up, based on a computerized system



- The CRIA-IV Experiment Station at Puno is also responsible for the work of establishing a basic seed-bed plantation on 10 hectares, with the three commercial varieties: Samaja, Kanccolla and Blanca de Julí. Experiments on plant protection for the control of pests and diseases were also carried out.

established in collaboration with the National Agrarian University of La Molina. At present, an evaluation of 134 ecotypes that are resistant to frosts and droughts is being carried out. At the same time, inter-varietal hybridization is being carried out and a preliminary study of native cultivars is being conducted, mainly in terms of planting density by variety, appropriate time of year for weeding and an analysis of the traditional versus mechanized planting systems.

- A study on plant-soil relationships was also carried out with the aim of analyzing the availability and extraction rate of the major and minor nutrients throughout the vegetative cycle of Quinoa, potato and other crops produced by the "campesino" enterprises of the area.

c. In industrialization

- A scarifying machine was adapted for use

with Quinoa, and was duly tested in order to arrive at the best possible design before making it available to the "campesino" enterprises and the rural sector in general.

- Present levels of technology were analyzed and new technologies explored: i) a report was written up on the present situation of the agroindustry of quinoa in Cuzco, Puno and Arequipa; ii) industrial experiments and tests were designed; iii) the scarifier was designed and duly tested.

d. In marketing

- A study of the supply and demand situation for quinoa was carried out.
- A study of marketing costs and margins was completed, having been carried out simultaneously with an analysis of the general characteristics of the industrial process and future tendencies.
- A basic marketing course was given.
- Appropriate methodologies for Collecting Centers were developed.
- A marketing policy was designed.

Uruguay



Uruguay



1. Project title

Regional Agricultural Development.

2. Background information and problem definition

The slight increase in brute value for agricultural production in Uruguay (1.2 percent, accumulative annually during the past 25 year) serves as frame of reference for the National Agricultural Development Plan. The objectives of this Plan are to increase the country's exportation capacity, to solve the employment problem and to ensure the redistribution of income within the sector.

Since there is no margin for the incorporation of new areas for agricultural exploitation and as possible changes in land use provide only rather limited solutions to the problem, the Plan indicated that its main objective to increase production must be obtained by means of increases in productivity. The agency responsible for the formulation of development plans, and the preparation and evaluation of agricultural sectoral projects, is the Programming and Agricultural Policy Office (OPYPA) of the Ministry of Agriculture and Fisheries (MAP).

However, this office ran into difficulties on the regionalization of the National Agricultural Develop-

ment Plan and the instrumentation of the necessary institutional organization, due to resource limitations. Nonetheless, a preliminary regionalization study of the country was begun during 1974, with help from IICA.

Once the government had selected the area and designated the working team (August 1976) the Agricultural Regionalization of Uruguay got underway, with the so-called Northeast Region (Rivera, Tacuarembó and Cerro Largo Departments). A preliminary diagnostic study of the socio-economic and institutional aspects of this region was immediately prepared so as to permit a clearer definition of activities to be undertaken during the 1977-1978 period.

This preliminary study indicates that the Northeast Region is one of the relatively lesser developed areas of the country; there is evidence of inadequate utilization of available resources and therefore a notable increase in production and productivity within the agricultural sector, and hence the levels of income for that Region, is feasible

3. General and specific objectives

In general terms, the objectives of this project are to:

- Increase food production in Uruguay.

- Increase the productivity of production resources in the Northeast Region.
- Generate the necessary institutional organization so as to coordinate development actions in the Region.
- Design a regional planning methodology, adapted to national needs.

More specifically, IICA is cooperating on institutional building aspects within MAP, by means of:

- The identification, selection and preparation of development projects in the Northeast Region of Uruguay, in coordination with the different MAP services, with the aim of increasing agricultural production and productivity in the area.
- The formulation of a Regional Development Plan to serve as a frame of reference for identified projects, and so as to ensure the efficient allocation of resources in the Northeast Region.
- The development of a regional planning methodology suited to the needs and conditions of the country.
- The creation of necessary institutional coordination mechanisms to facilitate the implementation of the Regional Development Plan and projects.
- The training of technical personnel participating on the Project.

4. Place and duration of project

The main area of influence of this Regional Agricultural Development Project encompasses the Departments of Tacuarembó, Rivera and Cerro Largo. Initial project activities undertaken during the first year, were carried out in the three departments and in Montevideo, the capital. More work within the region is foreseen for the second year, including a concentration of efforts on determining specific areas in accordance with the already identified projects. Project duration is five years.

5. Starting date

An agreement was signed in May 1976 by the Minister of Agriculture and Fisheries and the Director General of IICA, formalizing this project. The operative stage of the project got underway in August 1976.

6. Beneficiaries

Project beneficiaries are:

The national agencies involved, in overall terms, in the Regional Rural Development Plan, are the

Urban and Regional Development section on the Planning, Coordination and Dissemination Office (SEPLACODI), and the OPYPA of the Ministry of Agriculture and Fisheries.

- The farmers involved in the Regional Agricultural Development Project.
- The consumers in the Northeast Region and its areas of influence.
- Agencies working on development aspects in the Northeast Region, specifically the NORIONE Plan and the Frontier Population Study Committee; at a national level, the National Colonization Institute.

7. Costs

Total project cost estimates for the second year (1977-1978 fiscal period) are US\$ 156,800, of which IICA's Simon Bolivar Fund would contribute US\$ 107,100 and the Government of Uruguay contribution, through MAP, would be US\$ 49,700.

8. Participant organizations

The following organizations are participating in this project:

- MAP which has delegated operative responsibilities to OPYPA. This agency is responsible for establishing the linkages and coordination with other MAP agencies and the public and private agencies working on the project. National technical personnel working on the project include two professionals from OPYPA and one from the National Colonization Institute.
- IICA carries out technical cooperation actions, through the services of specially hired experts to implement the project; scholarships are also being financed for the training of a team of young professionals.

9. Final product

The final product on this project has already been described qualitatively, under point 3, Objectives. More specifically, the following achievements are expected during the 1977-1978 fiscal period, as a result of MAP and IICA's joint efforts:

- A first approximation of the Regional Agricultural Development Plan for the Northeast Region, to be submitted for consideration to the higher global and sectoral planning bodies.

- A decision, by national authorities, as to the order of priority of the alternative specific regional development projects, proposed by the technical teams.
- Feasibility documents on specific projects, within the Regional Development Plan.
- A regional planning methodological scheme, adapted to the socio-economic conditions of the country.
- The specialization (contribution to) of ten university-level professionals on preparing regional development projects.

10. Progress achieved

- The preliminary document on a regional development plan entitled "Development Proposal for the Northeast Region" was prepared. The document includes the objectives, goals, strategies and production and investment projections at the regional level. The document was presented by the OPYPA to national –civil and military– authorities at a high-level meeting held in November 1977. Final adjustments have been made and the socio-economic and agronomic study of the Northeast Region has been completed and written up, based on secondary information. A start has been made on the analysis of agricultural economic policies, with respect to prices and marketing of products contemplated within the agricultural production projects.
- Five agricultural production projects were identified, selected and located geographically in the region: a livestock development project; an agricultural development project; a forestry development project; a rice cropping development project and an agro-livestock development project. The feasibility study documents are being prepared, and are at the stage of programming for the typical farm, based on information retrieved from a survey which was processed and analyzed at this time. Marketing studies for the products contemplated within the projects were also started.
- Work was undertaken to identify complementary projects, including roadway and storage in-

frastructure and service needs at the farmer level. The level of training of the farmers was also analyzed, with the aim of identifying their ability to apply technologies to be introduced with the development plan. As a result, meetings were held with representatives from the Universidad de Trabajo of Uruguay in order to program short courses for farmers on different aspects of farm and livestock management.

- In addition, technical support and information were provided the Colonization Project being carried out by the INC in collaboration with IICA in the Northeast.
- Considerable assistance and technical advisory services were also provided the Department of Agricultural Promotion and Technification of the Tacuarembó Municipality on the formulation of an agricultural development plan for the small and medium-sized farmers living near Tacuarembó city. A field worker and student (on a scholarship) were assigned to this city to collaborate directly on the various tasks undertaken as part of the work being carried out by the IICA-MAP Agreement.
- A study was made of the institutions and organizations working with the agricultural sector in the Northeast Region. The study also includes some general guidelines on the normative model of the institutional mechanism needed to efficiently implement and administrate the regional development plan. Several meetings were held to coordinate actions with agencies working on the administrative regionalization of the country. The information of the agricultural regionalization of the country was completed, and considerable progress has been made on writing up the study for publication.
- Work was continued on the review and analysis of literature on regional planning methodologies and a study trip was made to Pôrto Alegre, Brazil, to observe the methodology being used by the Integrated Investment Program for the Agricultural Sector of Rio Grande do Sul.
- As to training, activities in this field included training twelve young professionals in the formulation of regional development projects.

Venezuela



Venezuela



1. Project title

Feasibility Study for the Development of Cassava Production, Marketing and Industrialization in Venezuela, and the Formulation of a National Cassava Plan.

2. Background information and problem definition

Over the past ten years, national grain production has increased at an annual rate of 3.9%, while demand for grain, during the same period, increased at a rate of 7.7% a year.

It is estimated that 83% of the national grain production is comprised of corn and rice, to be used by preference for human consumption. Hence, the industry of balanced grain-based feed for animals, and therefore the development of swine and poultry production in Venezuela, depends on imported grain.

The most serious problem in this growing dependence on foreign sources for grain supplies to meet food and feed requirements, is the range of fluctuations in the world supply of grains and hence a lack of price stability.

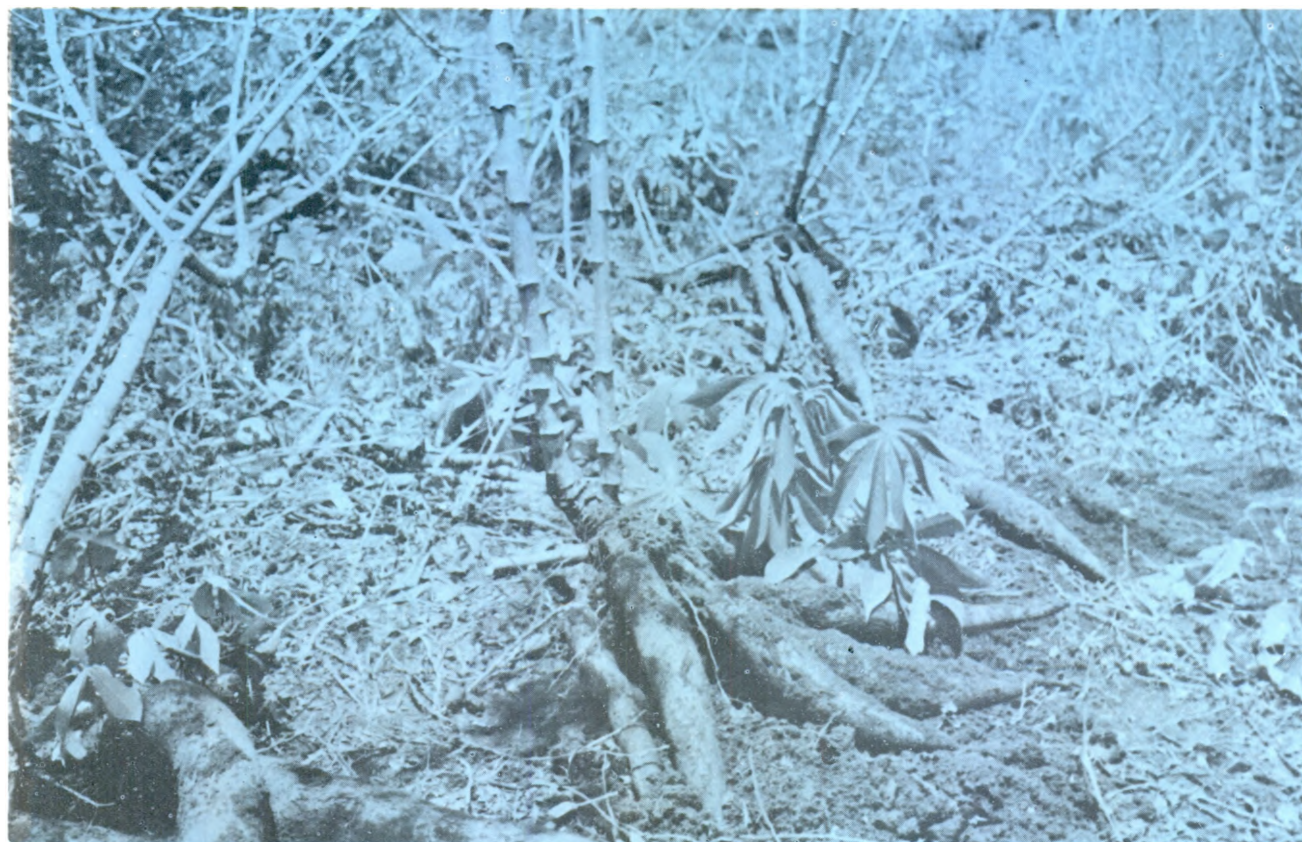
This situation obliged the country to work on reducing its foreign dependence by means of serious

efforts to foster and develop the production of corn and sorghum, and most particularly cassava, as substitutes for imported grains.

Currently, 73% of the cassava production is consumed as either food or feed, and 27% for industrial purposes, particularly starch production. However, a substantial increase in production could also cause problems, both on the side of supply as in the case of demand.

In production aspects *per se*, there are a number of problems of low yield and incomes as a result of several factors such as the use of "traditional" levels of technology, planting varieties without high-yielding genetic potential and the lack of cultivating and phytosanitary practices. Generally, the crop is grown in marginal soils, and marketing is inadequate for such a perishable product.

The demand for cassava is divided: for sweet or edible cassava on the one hand, and bitter cassava for industrial purposes on the other. The vegetative cycle of the latter is considerably longer than for the former (15 to 20 months in cultivation). There have been no substantial changes in the demand for sweet cassava. However, bitter cassava presents better growth perspectives as a substitute for imported grain. The industrial



utilization of cassava seems to have a promising future, particularly with respect to feed concentrates for animals, where, according to experimental analyses, processed cassava may substitute for up to 40 % of the current imports needed to produce balanced feeds. The chemical-energetic component of cassava can serve as a source of energy instead of grains, since cassava has a higher caloric and starch content. In addition, stalks and leaves of the cassava plant can also be used as feed, since the protein content of the dry matter (or "hay") obtained from the aerial part of the plant is high. Moreover, an important consideration is the fact that cassava is currently the cheapest overall source of edible nutrients, per hectare, as compared to other agricultural alternatives available in the country. With its industrialization, other usually imported products can also be obtained, such as jam thickeners, filler for icecream and sausages, and for use in the preparation of caramels, textile adhesives, glucose, alcohol and others.

The government of Venezuela requires a feasibility study before attempting to foster the production and industrialization of cassava. If this should prove to be economically viable, the study should also include action guidelines for work to be undertaken within an integral cassava development plan.

3. General and specific objectives

The general objectives for this project are as follows:

- The formulation of a feasibility study on the integral development of cassava in Venezuela.
- The formulation of a National Cassava Plan.
- The identification and formulation of specific projects within National Cassava Plan guidelines.

More specific objectives:

- To determine the possibilities for the integral development of this crop from agronomic, economic and social points of view.
- To determine the demand for cassava for direct consumption, and for industrialization, on national as well as international markets, analyzing comparative national advantages with respect to this crop.
- To analyze the national installed production capacity and expansion possibilities, based on the current national agro-socio-economic situation.

- To determine the crop development constraints, as related to the utilization of labor, markets and agronomic and soil characteristics.
- To indicate mechanisms and criteria to foster the production and industrialization of this crop, as related to supportive elements (i.e: credit, technology, prices, technical assistance, etc.).
- To ensure the compatibility of the policy to encourage cassava production, with other inter-related projects, particularly those concerned with fostering grain production.
- To identify and formulate those projects judged of priority within the National Cassava Plan.

4. Place and duration of project

The project is being carried out in several regions of the country. Project duration will be three years, depending on the results of the feasibility study.

5. Starting date

The Agreement was signed in April 1977, and the project got underway in July of that same year.

6. Beneficiaries

The Ministry of Agriculture and Livestock will be the direct beneficiary of this project, particularly the Agricultural Development Office and the Agricultural Sectoral Planning Office, since their professionals will be training in pertinent aspects, and a medium-term planning methodology will be structured, for application to production items.

7. Costs

Project cost estimates for the first year are US\$ 140,500, of which IICA through the Simon Bolívar Fund will contribute US\$ 71,500 and the country the equivalent of US\$ 69,000.

8. Participant organizations

IICA and the Ministry of Agriculture and Livestock will participate in this project; the latter with a technical team to work closely with the international professional responsible for the project. This team will receive in-service training during all stages of the

project. In addition, mention must be made of the collaboration of other national agronomic and technological agencies already working on aspects pertaining to the production and industrialization of cassava, as a part of the national counterpart contribution.

9. Final product

The results of a feasibility study will be available by the end of the project, on aspects pertaining to the production, marketing and industrialization of cassava; a National Plan for the Integral Development of Cassava will have been formulated; and a technical team will have been highly trained in pertinent aspects, and will serve as the "critical mass" to foster cassava production in the country, and to formulate medium-term development projects for different products. Once this stage has been reached, and if the Plan contemplates the possibility, the feasibility of developing an integral cassava production project for "campesino" organizations will be studied, or some other priority project.

10. Progress achieved

Five technical cooperation activities were carried out during the 1 March to 30 June 1978 fiscal period, which will serve as a basis for the formulation of a diagnostic study of the production, marketing and industrialization of cassava in Venezuela.

These activities are summarized as follows:

- Background information was compiled, as related to sectoral economic policies and the production, marketing and industrialization of cassava in Venezuela.
- A diagnostic study was conducted on the cassava cropping practices in that country, and on agronomic aspects of the crop.
- A study was also carried out on marketing and technology transfer aspects in cassava production.
- The cassava industrialization process was also analyzed.
- An evaluation meeting was held in Caracas, in May 1978, to analyze programmed and completed activities, and to define specific aspects with respect to the diagnostic study underway, the National Plan and the Integral Project for the production marketing and industrialization of Cassava in Venezuela.

Multinational Projects



Multinational Projects



1. Project title

Diagnostic Study of Improved Seed Production and Marketing in Central America.

2. Background information and problem definition

In 1976, the Permanent Secretariat of the Central American Economic Integration General Treaty proposed a project to "Foster the Production of Improved Seed", with the following objectives:

- To combine efforts in the field of research with the aim of obtaining improved seed.
- To reconcile legislation aspects at a regional level, as pertaining to improved seed production.
- To provide the region with present and future seed requirements.
- To augment production efficiency so as to ensure self-sufficiency and surplus, to be exported to extra-regional countries.

The first stage of this project contemplates the formulation of a feasibility study at an estimated cost

of CAS 800,000 which could eventually be financed by IDB or the World Bank.

The technical cooperation of IICA, other international organizations or some university with adequate prestige in this field, was considered for purposes of this feasibility study.

There is a study available which was carried out by the University of Mississippi in 1973, entitled "Seed Production and Supply in Central America: an Overview", which summarizes the main problems constraining the supply of improved seed to small and medium-sized farmers in Guatemala, El Salvador, Costa Rica, Nicaragua and Honduras. It also makes some recommendations of regional application, concerning this matter.

However, this information had to be updated so as to include the last three years, with the aim of establishing solid criteria as guidelines for the feasibility study, within an integrative approach, and specifically favoring small farmers.

At present there is insufficient production of improved basic grain seed which definitely has had a bearing on the low yield from small farms and therefore the low income for "campesino" families.

Although improved varieties with acceptable yield levels exist in the region, the obstacles in producing, processing and distributing the seed, and the lack of complementary programs hinder their use by small farmers.

It would seem advisable to seek solutions to the problem of improved seed production at the Central American level, particularly in those areas which are ready for integrative work, and which should effectively influence the development of same.

3. General and specific objectives

The study should produce reliable, up-to-date information so as to be able to arrive at clear definitions on the following aspects:

- Legislation: - Does it meet the needs in each country? Compatibility between countries and possibilities for establishing regional legislation and the necessary mechanisms to implement it.
- A study of the principal failures in the improved seed production, multiplication, processing, storage, distribution and control programs and schemes.
- The systematization of existing information concerning complementary programs such as:
 - Incentives for seed producers
 - Credit and technical assistance for small and medium-sized farmers
 - The use of other inputs
 - Technology transfer systems.

4. Place and duration of project

The project was located in San José, Costa Rica and the other capital cities of the Central American countries. Project duration was estimated at four months.

5. Starting date

The project got underway in May 1977.

6. Beneficiaries

In general terms, the Permanent Secretariat of the Central American Economic Integration General

Treaty will benefit from this project, and more specifically, the agencies in each country involved with the production and marketing of improved seed.

7. Costs

Total project cost was estimated at US\$ 11,985 to be financed by the Simon Bolivar Fund.

8. Participant organizations

The Central American agencies in charge of producing improved seed participated in the project, as well as the Grain and Seed Research Center the University of Costa Rica. IICA served as project coordinator.

9. Final product

A completed study which will allow IICA to make valid judgements from both a technical and a conceptual viewpoint, as to whether to participate or not in the regional effort to foster improved seed production.

10. Progress achieved

Based on an agreement between the Grain and Seed Research Center (CIGRAS-UCR) and IICA, through the Simon Bolivar Fund, a study was carried out and the results distributed by the IICA Offices in each country, to the pertinent national agencies.

The study, entitled "Diagnostic Study of the Present Basic Grain and Seed Situation in Central America and Panama" was based on information gathered in each country in June and July 1977, and was based on the needs and actual situation of the 1975-76 agricultural cycle.

The document is composed of seven volumes: one which explains the diagnostic study and analyzes the situation in the area, and six which analyze the situation in each country of Central America and in Panama, using the same model described in the first volume.

a. Problem analysis

The main problem over the past few years in the area, has been a general deficit in the production of basic grains; moreover a rather erratic pattern was observed as to the total amount of area dedicated to each of the four main crops (corn, beans, rice and sorghum); it was felt that an improved use of seed could lead to self-supply in the region.

The study stressed the following aspects, both at the regional and national levels:

i. Supply and demand

The following table provides information on the supply and demand for basic grain seed for each of the countries of the study area, for the 1975-1976 agricultural cycle.

(TABLE 1)

ii. Other data

The study also covered the following aspects, as pertaining to the basic grain seed problem:

- institutional organization
- plant breeding programs
- technology transfer systems and their importance
- credit for production purposes
- legislation as pertaining to seed quality control
- production programs
- processing and storage facilities.

b. Conclusions and recommendations

i. Conclusions

- There is considerable variation in the different ecologies of the area, which hinders the efficient implementation of seed programs.
- There is a deficit of basic grains in the area, and of seed production.
- Pertinent legislation is lacking and there is no clear definition of policies.
- The need for financial assistance and adequately trained personnel for the seed programs is evident.
- There is a lack of coordination between seed production and pertinent research and technology transfer endeavors.
- There are no specific lines of credit for the production and handling of seed.
- Seed quality control is deficient and of limited coverage.

- Seed production programs should be upgraded.
- Seed processing capacity must be expanded.
- Even where seed processing capacity is adequate, seed storage capacity is usually lacking.
- An adequate seed marketing and distribution system is lacking.

ii. Recommendations

- The following recommendations are made for the area, based on the study carried out in Central America and Panama:
 - The governments of the area should assign increasing importance and priority to the seed programs.
 - Effort should be made to ensure increased coordination between research, technology transfer and seed production endeavors.
 - The technical personnel in charge of the seed programs should be better trained.
 - Specific credit lines to foster seed production should be opened.
 - Seed legislation should be modified, taking into account:
 - Defined policies
 - State and private organizations
 - Elements of control in all production phases
 - Exchange of material between the countries of the area
 - Self-control situations should not be allowed to exist
 - Priority should be given to adequate seed storage and distribution systems.
 - A regional unit should be established to train personnel and to attempt to standardize norms and regulations.

Table 1. Seed requirements and availability in the pertinent sub-sector in each of the countries of the Central America – Panama area, for the 1975-1976 agricultural cycle: corn, beans rice, and sorghum.

	Crop	Guatemala	Honduras	El Salvador	Nicaragua	Costa Rica	Panama
Seed requirements (000 MT)	Corn	10.974	4.39	4.39	3.44	0.78	0.89
	Beans	8.326	2.50	3.45	2.60	1.60	0.83
	Rice	2.479	1.36	1.98	2.95	6.80	11.53
	Sorghum	1.720	0.50	1.75	0.44	0.13	0.07
Total availability of seed (000 MT)	Corn	1.13	N.D.	3.23	2.22	0.18	N.D.
	Beans	0.12	0.125	0.02	0.05	0.15	N.D.
	Rice	0.47	N.D.	0.09	–	6.29	N.D.
	Sorghum	0.16	0.01	0.03	0.21	0.44	N.D.
Available— public sub-sector	Corn	0.20	N.D.	0.47	0.76	–	–
	Beans	0.10	0.125	0.02	0.05	0.15	0.05
	Rice	0.07	N.D.	0.04	–	4.09	4.31
	Sorghum	0.017	0.01	0.03	0.02	–	0.14
Available— private sub-sector	Corn	0.93	N.D.	2.76	1.46	0.18	N.D.
	Beans	0.016	–	–	–	–	N.D.
	Rice	0.40	0.27	0.05	–	2.20	N.D.
	Sorghum	0.14	–	–	0.19	0.44	N.D.

ND = Not data available

Another Data



Table 1. 1977-78 Financial Requirements for the Implementation of Simon Bolivar Fund (IICA) Projects

Country	S.B.F. Contribution US\$	National Counterpart US\$
Argentina	103,500	129,000
Bolivia	100,500	138,481
Brazil	100,000	3,805,309
Costa Rica	103,315	662,000
Chile	124,000	126,000
Dominican Republic	85,000	64,200
Ecuador	102,000	228,960
El Salvador	3,000	—
Guyana	131,140	298,400
Haiti	120,000	92,000
Honduras	130,000	141,810
Jamaica	100,000	114,280
Mexico	90,000	20,000
Nicaragua	100,000	169,634
Panama	106,590	185,570
Paraguay	99,525	107,800
Peru	104,522	205,700
Uruguay	107,100	49,700
Venezuela	36,903	69,000
Fund Administration	192,000	—
TOTAL	2,039,295	6,607,844

Table 2. Temporary Professional Personnel for Simon Bolivar Fund (IICA) Projects, for their duration, 1977-1978

Country	Specialization	No. of Professionals	Man/ Months
Argentina	Agroindustry	1	18
Bolivia	Milk production	1	12
Brazil	Agricultural marketing "Campesino" organization Agricultural production —under irrigation	3	108
Costa Rica	Institutional development Agricultural planning Agricultural projects	3	72
Chile	Conservation and management of natural resources	1	60
Dominican Republic	Agricultural planning Agricultural projects	2	72
Ecuador	Rural development	1	24
El Salvador	Rural development Project management	2	24
Guyana	Legume production Rural administration Agricultural machinery	3	108
Haiti	"Campesino" organization Improved seed production	2	96
Honduras	Regional development Tropical crops Tropical animal husbandry Agricultural planning	4	108
Jamaica	Cropping systems	1	36
Mexico	Agricultural projects	1	4
Nicaragua	Financial administration Agricultural projects Institutional development	3	90
Paraguay	Associative enterprises "Campesino" organization	2	30
Panama	Rural administration	1	30
Peru	Andean crops	3	36
Uruguay	Agricultural projects	1	36
Venezuela	Cassava production and industrialization Agricultural projects	2	12
Total		37	976



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