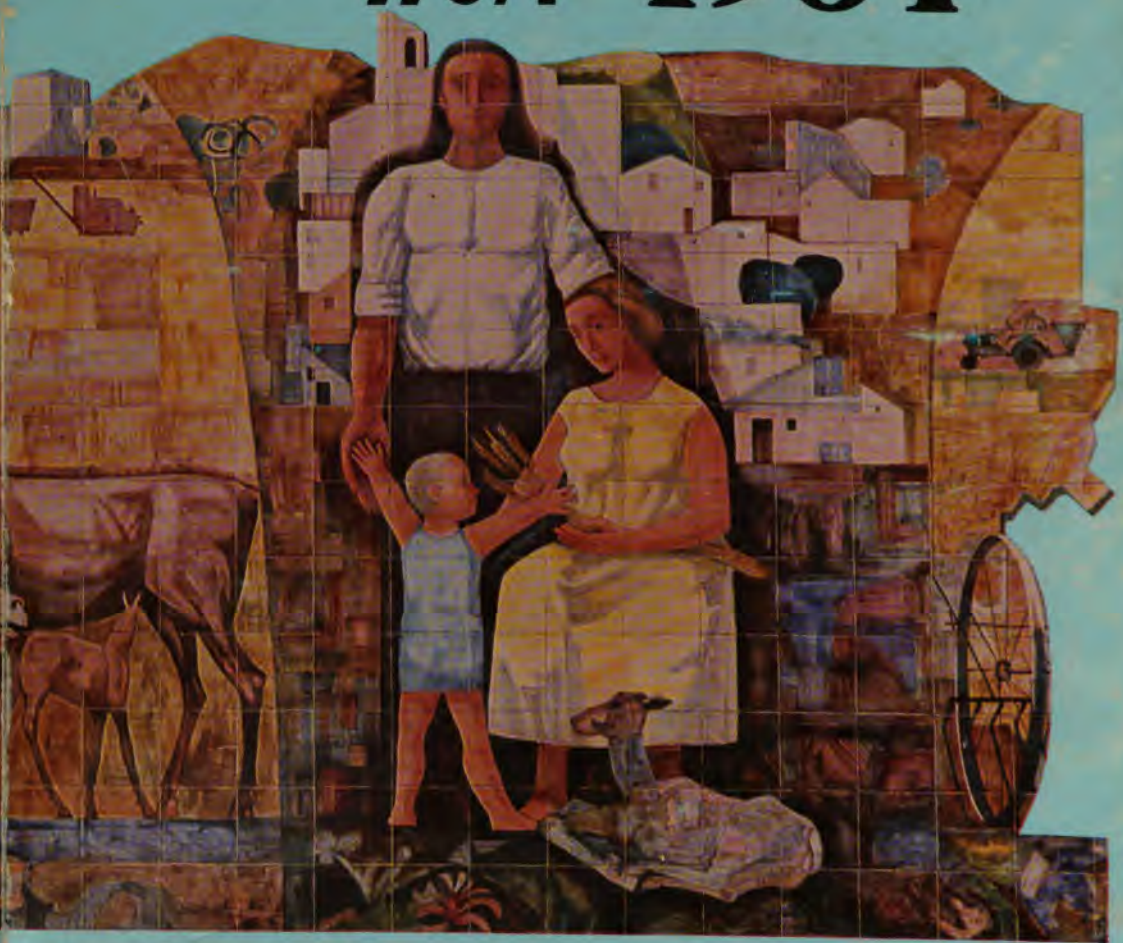
annual report

IICA—1984



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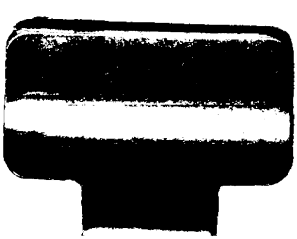

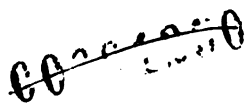

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Volume I

Introduction

In compliance with the Institute's Convention, I am pleased and honored to present the Annual Report of the Institute's activities and financial status for 1984, the first year of implementation of the 1984-1985 biennial Program Budget, approved by the Inter-American Board of Agriculture at its Second Regular Meeting, held in Kingston, Jamaica, in October of 1983.

This is the first time that the Institute's actions for technical cooperation with the member countries have been carried out entirely within the framework of the biennial budget, the new General Policies and the 1983-1987 Medium-Term Plan, thus completing a new stage in the forty-two year evolution of the Institute's service to the Member States.

This notable achievement has taken place at a time when the countries of Latin America and the Caribbean are facing a grave economic crisis, reflected in the declining growth rate of the gross domestic product which, coupled with the rise in demographic growth —over 400 million inhabitants in 1984— reduces per capita income. The brunt of the burden is felt most by lower-income groups. In this context, agriculture, the

backbone of most of the Latin American and Caribbean economies, constitutes one of the most viable and important alternatives for economic recovery and for accelerated and self-sustained development.

Fully aware of its role as the specialized agency for agriculture of the Inter-American System, IICA has sought to channel its efforts and reach agreements for technical cooperation with the Governments of the Member States. Accordingly, IICA's actions are tailored to respond to the sectoral policies and priorities identified at the national, regional and hemispheric levels, without losing sight of the need for efficiency and effectiveness, so as to produce significant results to improve the countries' economic condition and the well-being of their inhabitants.

During the course of 1984, IICA conducted 706 activities within the framework of the 172 projects under the ten Programs prescribed in the 1983-1987 Medium-Term Plan. The results and fruits of these activities are detailed in both the unabridged and summarized versions of the Annual Report and in the pertinent annexes. This year, for the first time, the latter are presented separately to facilitate distribution, reading and access for its readers.

I would also like to highlight the achievements of diverse projects implemented by IICA in 1984 at the national, subregional and multinational levels. The most outstanding were the eradication of African Swine Fever in Haiti; the role of the Regional Council for Agricultural Cooperation in Central America, Panama, the Dominican Republic and Mexico, as a forum for consultation, integration, and joint programming; the contributions made by the Investment Projects Center in the identification and formulation of projects which facilitated the procurement of substantial financial resources for the Member States; the implementation of Projects for Integrated Rural Development and Planning, which enhanced the delivery of services to producers in countries such as Guatemala, Bolivia, Colombia, Ecuador and Costa Rica; and the first results of the projects for diver-

sification of agricultural production in the Caribbean and the training actions designed to improve the management of associative campesino enterprises in Central America.

In 1984, the General Directorate, with the steadfast participation and support of the Member States, prepared and submitted, for the consideration of the Executive Committee, the modifications to the basic documents governing the Institute's internal and external action, the Staff Rules and the Financial Rules, the Systems for the Classification of Positions and Personnel and for the Remuneration of Personnel, which serve to consolidate the institutional structure of IICA.

The process of automating the Institute's financial and accounting procedures continued in 1984, thus affording more flexible and expedient management of the Institute's financial matters. In addition, the use of modern equipment purchased by the Institute has facilitated communication with IICA Offices in the countries and implementation of new automated systems for internal use and service to the Member States.

IICA presently maintains Offices in all of its 29 Member States. The opening of the Offices in Saint Lucia and the Commonwealth of Dominica in 1984 ensured the Institute's permanent presence in the territory of each of its Member States, enhancing its capacity to cater thereto in a timely and effective fashion. As part of the same plan of action, the Directorate of External Finances was transferred to Washington D.C., in October of 1984, to facilitate more direct and continuous contact with all of the international organizations headquartered in the United States.

The total amount of quota contributions to IICA, received from the member countries between 2 January and 31 December 1984 for 1984 and previous years, was US$ 16 923 000. This represents 87.58 percent of the quotas budgeted for 1984. The amount received was 1.15 percent greater than the sum received for 1983. These contributions, together with the funds

for the implementation of agreements and extra-quota projects, which in 1984 totaled US$ 20 083 000, constitute the bulk of the Institute's income for providing the technical cooperation agreed upon with the Governments of the Member States during 1984.

In order to reach agreement on action for technical cooperation with national authorities and to participate in a more direct manner, both at the regional and country level, the Director General, during the course of 1984, visited thirteen of the Member States and signed 150 agreements and contracts. He furthermore represented IICA at various international meetings, which were organized and conducted with the active participation of the Institute.

Francisco Morillo Andrade
Director General

chapter 1

Agriculture in the Americas: Current Status and Future Trends

IICA continually keeps abreast of the problems in the region, particularly those concerned with agriculture. Its findings serve as a framework in which to develop the Institute's actions. The following is a summary of the salient aspects of the general status of Latin America and the Caribbean, and more specifically of agriculture, both at the hemispheric and country levels.

General Analysis

The West, and the United States of America in particular, are becoming increasingly concerned with the state of affairs in Latin America and the Caribbean.

The contradictions inherent in North-South relations, economic recession and the problems of rural and urban poverty, coupled with other factors, have taken their toll on the economies of the region and compounded social conflicts in many of the countries.

In terms of present-day geopolitics, factors such as the oil produced in *Mexico* and *Venezuela,* the geographic coordinates of the Caribbean and Central America, the Panama Canal and the movement of a high percentage of oil and other exports and imports to and from the United States via the Caribbean, make this region of the Hemisphere one of strategic importance.

Certain non-traditional agricultural products which figure within the Caribbean Basin Initiative could conceivably have greater access to the United States market. This would be the beginning of a progressive and sophisticated approach which could generate the diversification and growth of the economies of those countries benefiting from said initiative.

Among other items, the Kissinger Report on Central America clearly prescribes support for agricultural development, agrarian reform, credit facilities for lower-income groups, food security and

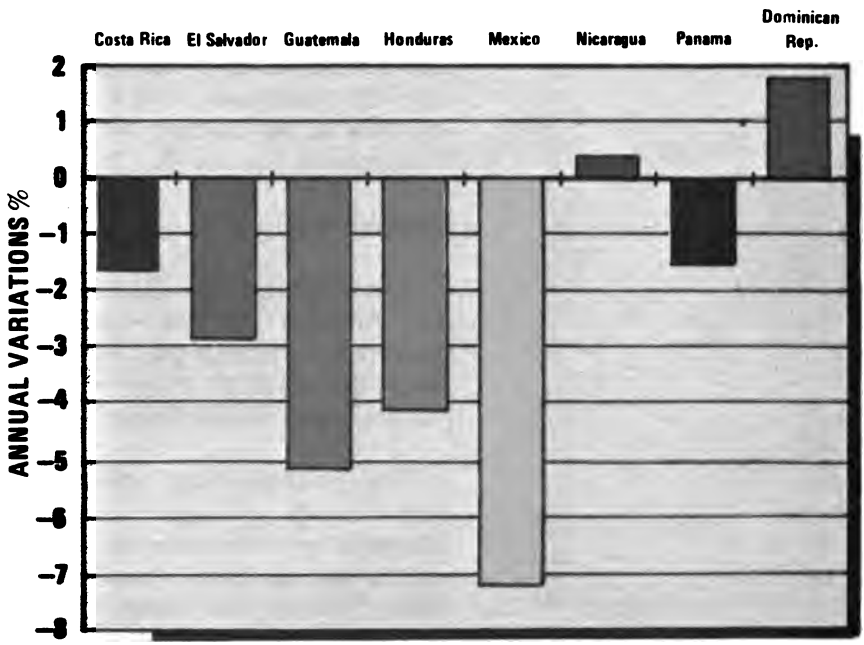


Fig. 1. Growth in per capita gross domestic product in Area 1 — Central.

improved access to education. At present, the countries of Latin America and the Caribbean are attaching more importance to agriculture as a source of foreign exchange, employment and food production and a tonic for the economy in general. Agriculture's contribution to the gross domestic product, measured in terms of aggregate value, is still over ten percent.

However, a marked contradiction can be observed in the industrialized countries. While they are fully aware of the need to improve the terms of trade, and more specifically the prices for basic commodities and agricultural products from the Third World, they would also like to have access to inexpensive foodstuffs and other products. Because of the power of public opinion and domestic consumer strength, the free market developed countries cannot be expected to encourage price increases for basic commodities which they themselves import from the developing countries.

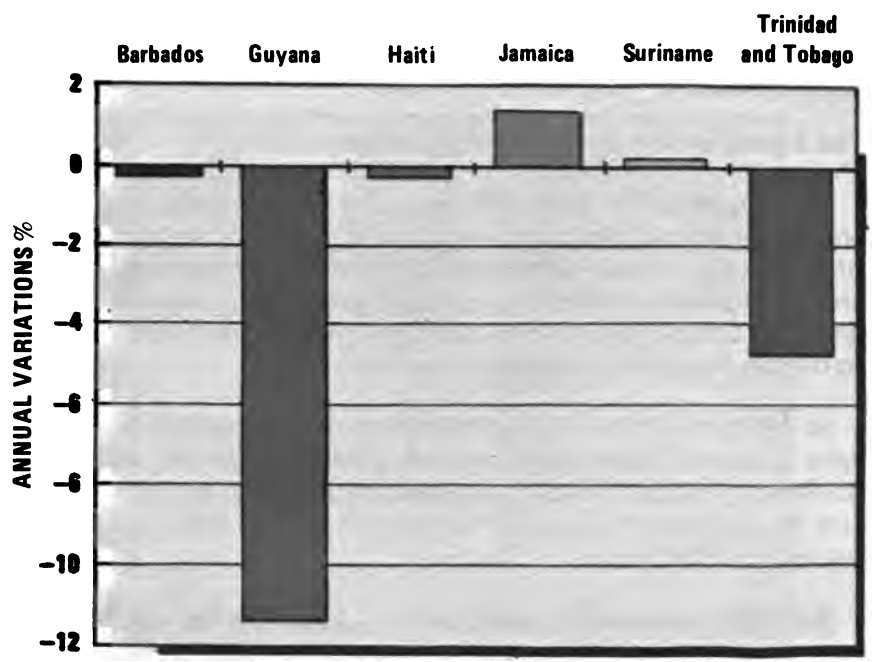


Fig. 2. Growth in per capita gross domestic product in Area 2 – Caribbean.

The countries of Latin America encounter difficulties in adopting joint policies which could reduce the level of competition, thus allowing them to make optimum use of their comparative advantage. They have also been unable to establish associations to create a more balanced supply which would improve international prices for their basic commodities and ensure more equitable terms of trade.

Economic growth in the medium term must be accompanied by improved living conditions in the rural sector of these countries, since the smooth integration of agriculture into other parts of the economy could serve as the cornerstone of general economic recovery.

Development strategies in Latin America have varied in recent years and have been difficult to implement because of the prevailing economic crisis. A serious effort should be made to design an appopriate development model and to identify the resources required for its application. The ultimate objective of this new model should be to combine development with distribution and participation, forming a context in which agriculture plays a much more decisive role than in the past.

The Economy and the Status of Agriculture

The countries of Latin America and the Caribbean are experiencing a complex period of recession, reflected in the deterioration of the foreign sector, slowed growth of the gross domestic product, and unsatisfactory levels of agricultural production. All this, together with the critical foreign debt problem, makes it extremely difficult to rely on resources for development programs.

In 1983, 19 of the 26 countries in the region where reliable data were obtained experienced negative growth in the per capita gross domestic product (Table I). Aggregate production in Latin America and the Caribbean decreased by one percent in 1982 and by three percent in 1983 (Figs. 1, 2, 3 and 4).

By 1982, agricultural production in Latin America had registered zero growth; by 1983 the rate of growth in the aggregate value of agricultural production was negative for nine of the countries in the region (Table 2) and (Figs. 5, 6, 7 and 8).

The total contribution of the agricultural sector to GDP, in terms of aggregate value, dropped from14.8 percent in 1961-1970 to 11.5 percent in 1971-1980 and 10.9 percent in 1981-1983 (Figs. 9, 10, 11, 12 and 13).

Despite economic recovery in the industrialized countries, beginning in 1983, prices for basic export commodities from Latin America only experienced a modest increase from an index of 75 in 1982 to 80 in 1983 in nominal dollar terms (base 1980=100). In real terms, 1983 prices were 20 percent below those for 1980. This explains why, despite the three percent increase in imports by the industrialized countries in 1983, total import value decreased by two percent.

Inflation dropped in the industrialized countries, particularly in countries with strong currencies. In the United States it declined from six percent in 1982 to 3.9 percent in 1984; in West Germany, from 4.8 percent to 2.3 percent and in Japan from 1.7 percent to 0.8 percent. In 1984, inflation in the industrialized countries averaged only 4.3 percent, which contrasts with other inflation figures for the hemisphere.

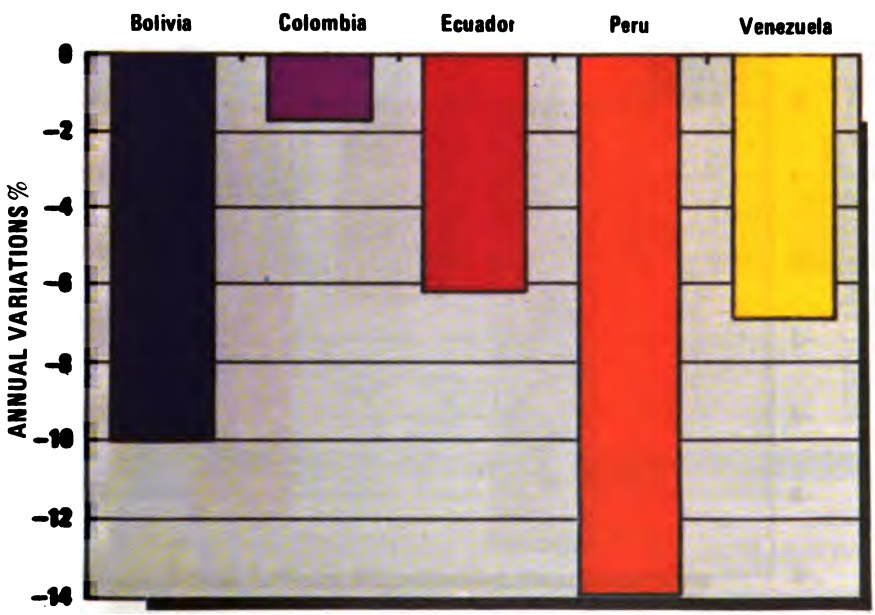


Fig. 3. Growth in per capita gross domestic product in Area 3 — Andean.

In 1979, agricultural exports accounted for 76 percent of all Latin American exports. This region produces six major agricultural products: coffee, sugar, beef, corn, cotton and soybeans, which constitute 80 percent of its total agricultural exports.

Agricultural imports in the region were also concentrated on few articles. The most important include: wheat, edible oils, corn, dairy products, sorghum, millet and rice, which accounted for 90 percent of the total.

Production for domestic consumption registered marked deterioration over recent years, which meant a decline in regional food self-sufficiency. Accordingly, and due to the decline in purchasing power, it is estimated that 15 percent of the population, or close to 50 million persons, suffer from malnutrition.

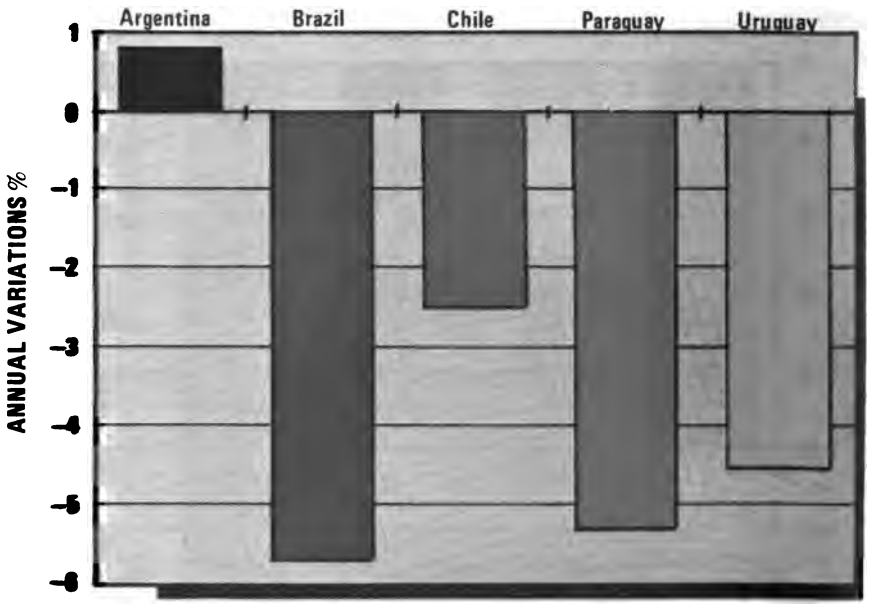


Fig. 4. Growth in per capita gross domestic product in Area 4 — Southern.

The population of the region grew from 208 million in 1960 to 340 million in 1980, 364 million in 1983, and in excess of 400 million in 1984. The demographic growth rate was constant from 1961-1970 to 1971-1983; however, the rural population dropped from 51.2 percent to 32.5 percent between 1960 and 1983 (Table 3).

This population increase (Figs. 14, 15 and 16), coupled with the fall in GDP, resulted in a reduction in per capita product as of 1982, which seriously affected lower-income groups and created social and political problems as well a growing frustation (Table 4).

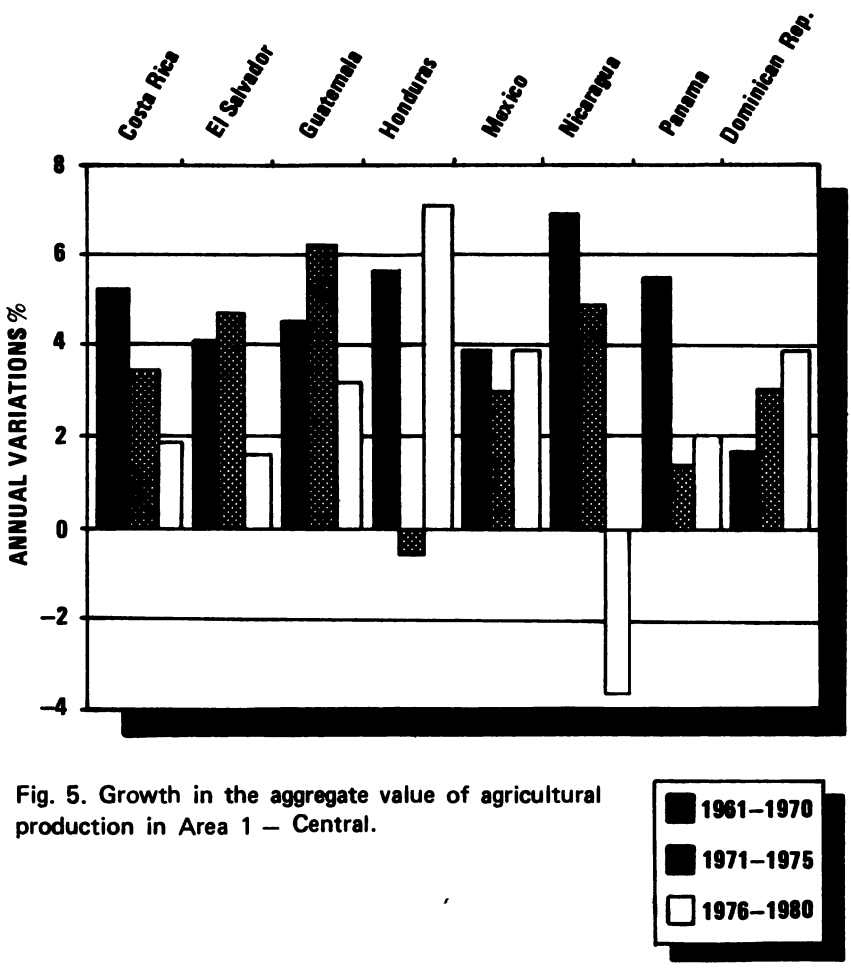


Fig. 5. Growth in the aggregate value of agricultural production in Area 1 — Central.

For purposes of analysis, it should be pointed out that the countries of Latin America and the Caribbean constitute a highly heterogeneous region. This is reflected in the following facts:

a. One group of countries revealed annual per capita growth of GDP in excess of three percent up until 1982, while the least dynamic group scarcely experienced one percent.

b. The aggregate value of agricultural production grew by an average annual rate of 4.4 percent in the most dynamic group, while in the least dynamic, it scarcely had a growth rate of 1.2 percent.

c. Population varies between 250 inhabitants per km^2 in the most densely populated countries and less than 10 inhabitants per km^2 in the least densely populated.

d. Foreign per capita debt varies substantially among countries.

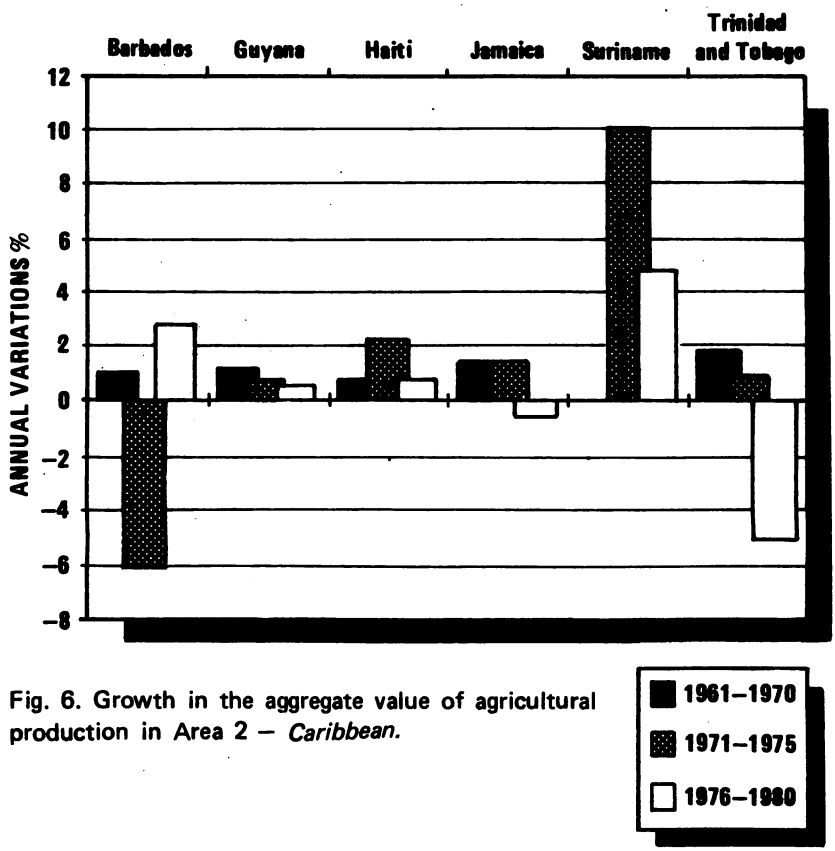


Fig. 6. Growth in the aggregate value of agricultural production in Area 2 — *Caribbean.*

Recession has been accompanied by a serious increase in foreign debt, which soared to 315 billion dollars in 1982, twice the figure for 1979. In 1984, Latin America's foreign debt totaled 350 billion dollars.

The effects of the crisis and the debt could already be felt in 1982. However, it was not until 1983 that vast sectors of the population were seriously affected in the form of rising unemployment, inflation and general deterioration of standards of living. This was due to the decline in credit made available to the region, the need for considerable resources to service that debt, and the introduction of draconian measures for domestic adjustment in most of the countries. Furthermore, sustained high interest rates and the fact that there was no perceivable expansion of exports affected the economy as a whole.

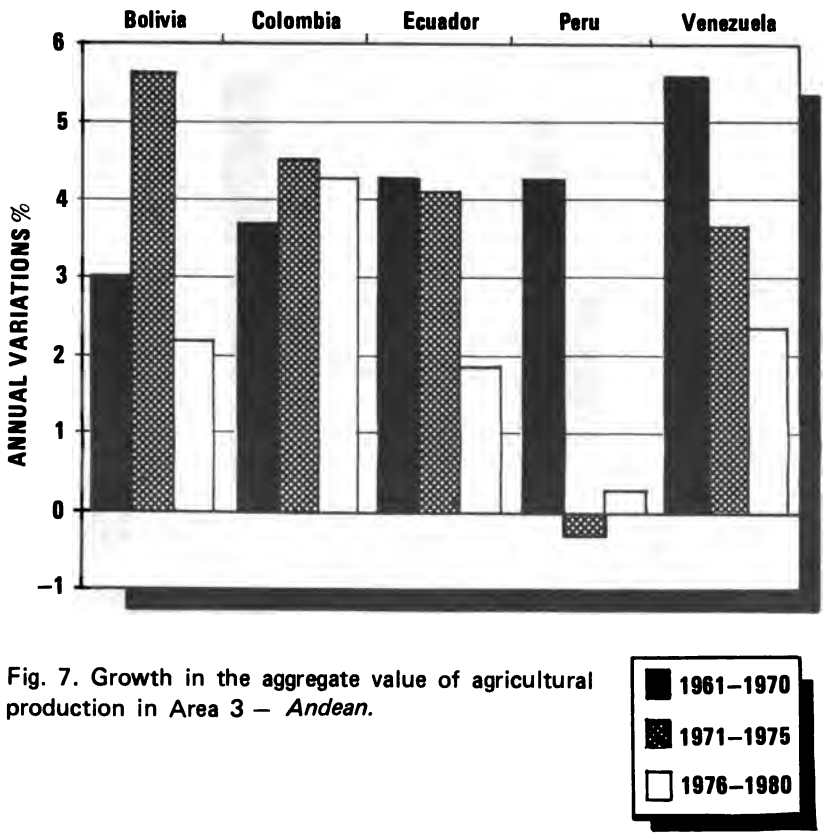


Fig. 7. Growth in the aggregate value of agricultural production in Area 3 – *Andean.*

At the same time, the balance of payments in the region registered a deficit of over 11 billion dollars in 1976. In 1981, this figure reached 39 billion, dropping to 33 in 1982. The year 1983 witnessed an appreciable improvement in the deficit, which was on the order of nine billion dollars. This was mainly due to a drastic reduction in imports, ceilings on investment and renegotiation of the foreign debt.

In 1983-1984 the world economy experienced disparate recovery, but this was insufficient to curb the decline in the Latin American economy. Industrial production in the developed countries rose by six percent in the United States of America, five percent in Canada, four percent in Japan and three percent in the United Kingdom, which was on par with 1980 levels.

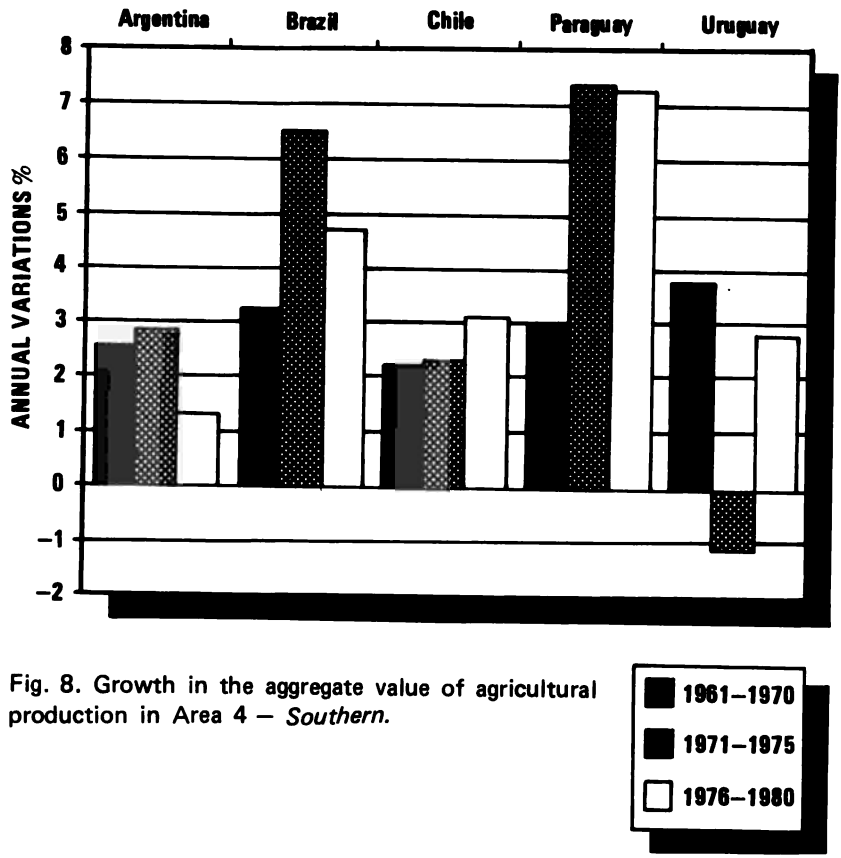


Fig. 8. Growth in the aggregate value of agricultural production in Area 4 — *Southern.*

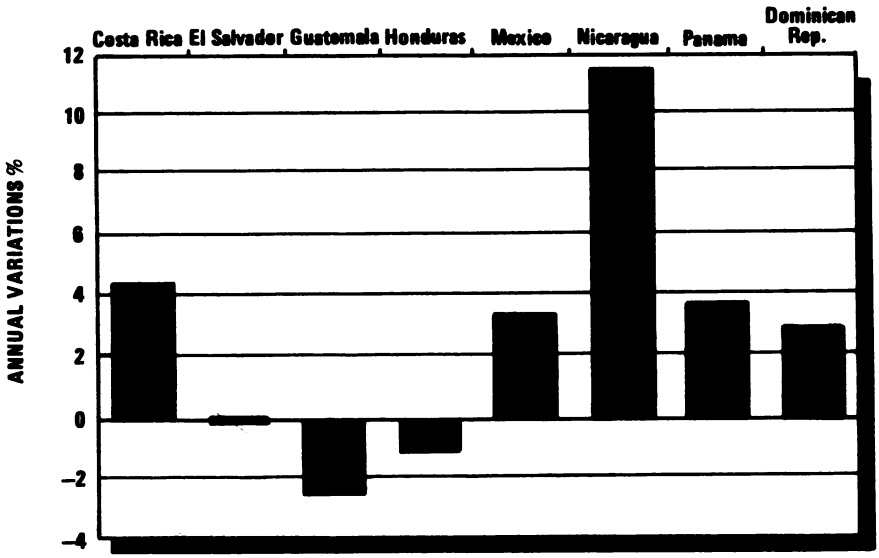


Fig. 9. Growth in the aggregate value of agricultural production in Area 1 – Central. Preliminary estimate for 1983.

World recession and the restrictive measures adopted by the developed countries caused a fall in demand. The possibility of economic recovery, however, could bring about an improvement in North-South relations.

Economic recovery in the developing countries is closely associated with a general improvement in prices for basic export commdities, particularly agricultural exports, as well as a greater demand for said products in these same countries.

The recent plunge in oil prices has helped the developed countries to revive their stagnant economies. The developing and non oil-producing countries should try to take advantage of this reduction in oil prices and the economic recovery in the industrialized countries to achieve a level of sustained growth.

Recently, there has been talk of trade initiatives within the region. This could serve as a means to overcome the present crisis. Because

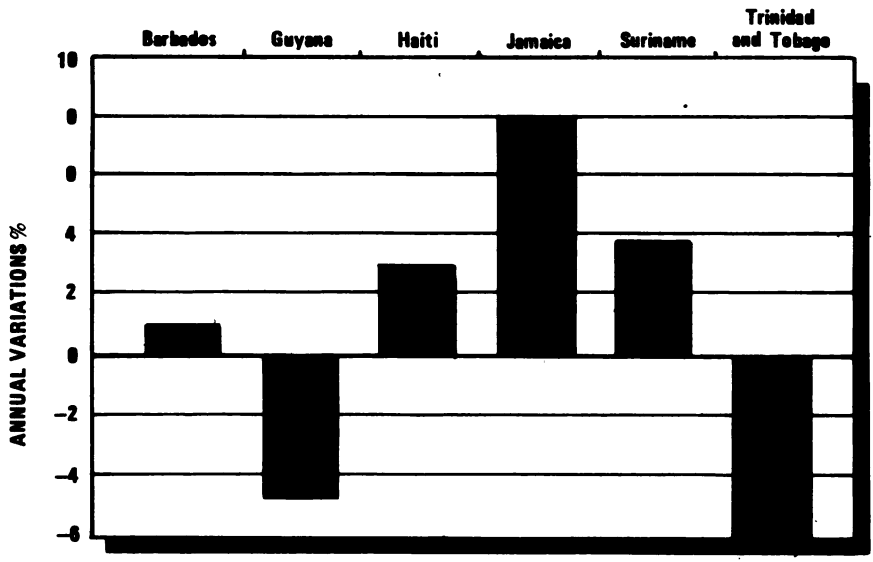


Fig. 10. Growth in the aggregate value of agricultural production in Area 2 – Caribbean. Preliminary estimate for 1983.

the countries of Latin America are heterogeneous, and their production both diverse and complementary, a regional food policy which aims at self-sufficiency could provide the foundations of a strategy whereby Latin America begins to seek its own solutions and to work together. This would allow the countries of the region to enjoy the obvious benefits to be reaped from international trade, without being subject to the risks and disadvantages inherent in dependency on quotas and price levels which are subject to severe fluctuations and uncertainty.

An IDB study revealed that the dollar's exchange rate in real terms in the countries of the region (base 1970=100) slipped to 87 by the middle of the last decade and fell to 76 by the beginning of this decade. As a result, the purchasing power of the dollar in Latin America and the Caribbean decreased by an estimated annual average of 2.3 percent during that period.

Given current conditions, which continue to be characterized by fluctuations and uncertainty, the high rate of rural to urban migra-

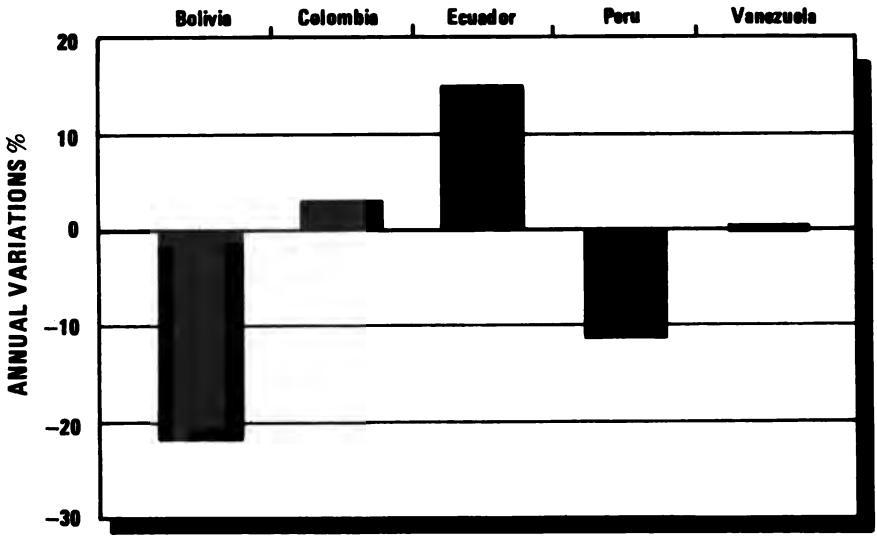


Fig. 11. Growth in the aggregate value of agricultural production in Area 3 – Andean. Preliminary estimate for 1983.

tion, and the general urbanization process which has taken place in the countries of the region cannot be sustained, since the industrial and service sectors are incapable of absorbing the labor supply in the short term. Nevertheless, it is hoped that the agricultural sector will be able to absorb available labor and bring about an expansion of exports to generate foreign exchange. It can play this role only if the necessary investment takes place in the near future.

Domestic food consumption in the countries of the region is also affected by the loss of purchasing power, which has been seriously eroded by inflation. Demand for food has fallen, and consequently agricultural activities have become less profitable and there is little incentive to invest. This is compounded by the reduction in foreign exchange obtained from exports and the resulting loss in the capacity of some countries to import foodstuffs.

Two vital facts must be considered with respect to the availability of foodstuffs for human consumption: the competition between livestock and people for the consumption of grains and the use of arable

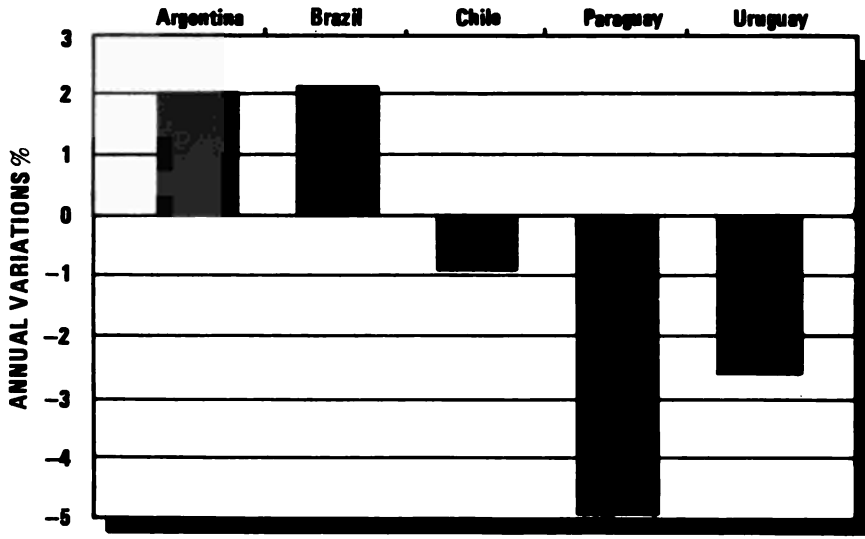


Fig. 12. Growth in the aggregate value of agricultural production in Area 4 – Southern. Preliminary estimate for 1983.

land. The percentage of grain destined for animal consumption has grown appreciably over the last decade, and current levels continue to be significant, particularly in the countries with the least favorable conditions. At the same time, in some countries a high percentage of the land in the best soil classes is being used for stock-raising. These anomalies call for serious analysis if this situation is to be redressed. (Table 5, Figs. 17, 18, 19 and 20).

Despite the foregoing, it is clear that Latin America and the Caribbean, when compared with other large geographic blocks, register the lowest ratio of cultivated land to potentially arable land: 16.7 percent, *versus* Asia, for example, with 70.8 percent. However, the region has the highest ratio of potentially arable land to total surface area (36 percent *versus* 20 percent for the other large blocks). This situation is propitious for the formulation of imaginative and decisive new policy plans and means of implementation which emphasize the role which agriculture and the rural sector ought to play. The following aspects are worthy of consideration:

Fig. 13. Aggregate value of the agricultural contribution to GDP in Latin America and the Caribbean (in percentages).

a. The government institutions, which in many instances have become highly bureaucratic and have limited operating resources, should make structural improvements, reduce their levels of bureaucracy and improve their ability to respond in a coordinated fashion to problems and opportunities which arise.

b. Special attention should be given to rural credit for the small-scale farmer, since in many countries credit is concentrated in the hands of large and medium-sized producers, especially for export commodities. Less privileged sectors, organized groups in particular, have proven to be creditworthy and achieve high levels of production with limited resources.

c. Stabilization and adjustment processes implemented in Latin America should either eliminate those factors which tend to reduce employment or replace them with labor-intensive operations and projects. The agricultural sector can play a revitalizing role by taking advantage of its lower job creation costs by comparison with industry.

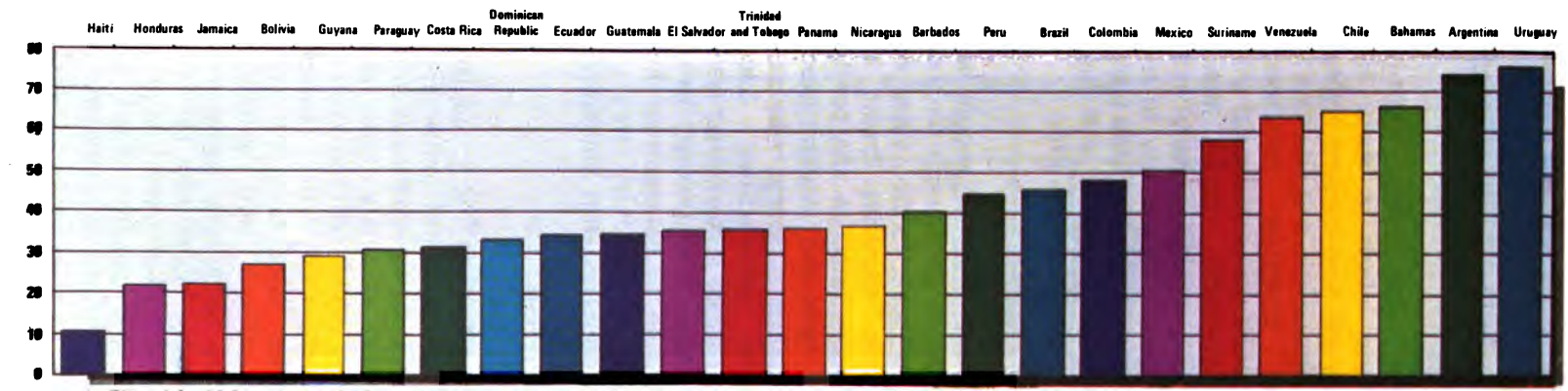


Fig. 14. Urban population in Latin America and the Caribbean by country, 1960.

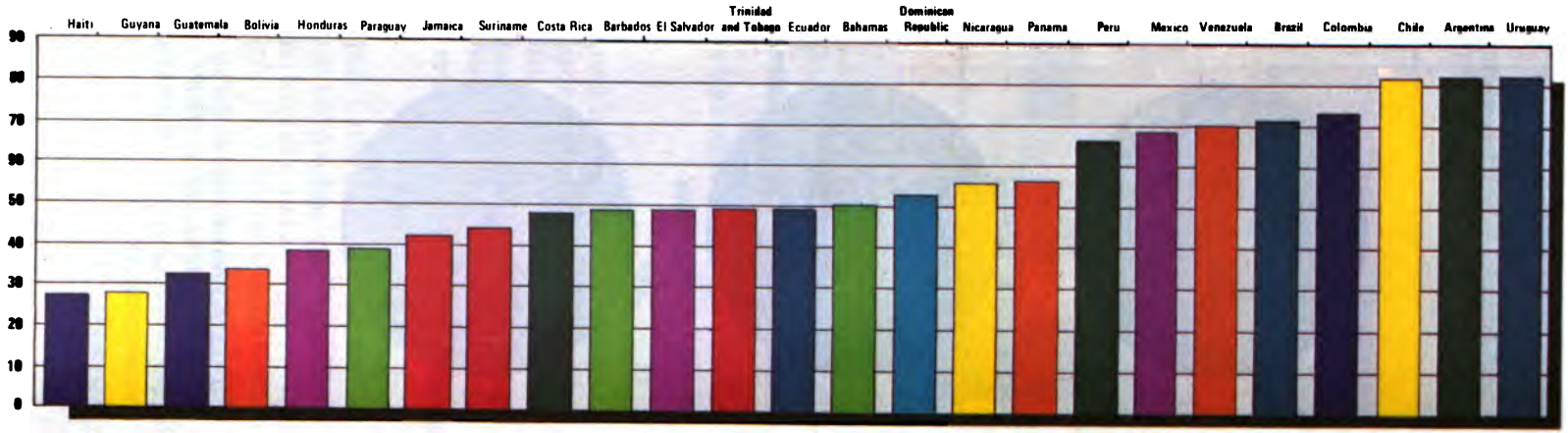


Fig. 15. Urban population in Latin America and the Caribbean by country, 1983.

d. The problems associated with the low rural and urban income of vast numbers of the population ought to be addressed and a balance must be struck in the price structure to keep the interest of consumers of agricultural products compatible with those of producers. This would serve to provide the agricultural sector with sufficient incentives to increase production.

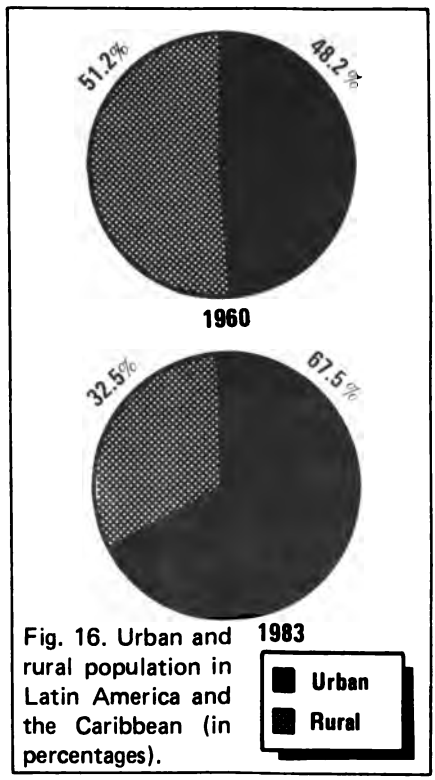


Fig. 16. Urban and rural population in Latin America and the Caribbean (in percentages).

e. The generation and transfer of agricultural technology play an important role and could significantly help the countries benefit from opportunities which arise in today's domestic and international markets. Organizations concerned with agricultural science and technology, created in the region *circa* 1960 and currently faced with stagnation, deterioration and loss of their most qualified personnel, must be supported by international loans, subsidies and other types of government assistance. This move should be accompained by serious educational efforts to groom the new generation of researchers and functionaries concerned with the transfer of technology and with other areas of the agricultural sector. Technological advances, such as genetic engineering, tissue cultivation, etc., should be strengthened in Latin America, so as to keep pace with progress being made elsewhere which could shape future agricultural endeavours. The generation and transfer of technology, when implemented together with the necessary structural changes, will allow for improved distribution of income.

f. With respect to renewable natural resources, Latin America and the Caribbean still boast extensive forested areas, particularly in the humid tropical region, which are rich in water resources and

flora and fauna, in addition to a high potential for energy and agroenergy resources. This wealth, together with the added advantage of having a relatively sparse population as compared with other continents, could ensure a brighter future for the region. In terms of resources related to agricultural activities, it is evident that the forested areas in the humid tropical region could constitute the next agricultural frontier in the majority of the countries, and feature ecologies which lend themselves to optimal biological productivity. Unfortunately, this does not translate into similar economic productivity because of a series of constraints of a socioeconomic, technical, agronomic and ecological order, which must be observed in the development process of these areas. This calls for modification of the traditional approach to development, which in turn calls for the reshaping of traditional production and consumption patterns, in keeping with existing ecological and social conditions, which to date have been overlooked and little understood.

g. The different approaches to the energy problem should be revised in light of the decrease in oil prices and the progress made in the use of oil substitutes derived from organic matter.

h. Enterprise in Latin America is extremely heterogeneous. Accordingly, the transfer of agricultural technology and other services should be adapted to prevailing conditions in the different countries of Latin America and the Caribbean. There is no single technology applicable to the entire region; thus, there is a pressing need for appropriate technology tailored to local and regional needs. Priority should be given to training small-scale farmers in different entrepreneurial domains and to support the consolidation of their different efforts at association.

i. The creation of technical cooperation and exchange programs between countries is indispensable, since a given technology which is useful in one country could also prove useful in another, or call for other alternatives and new approaches. Therefore, reciprocal cooperation efforts and the exchange of experiencies and ideas between the countries of Latin America should be promoted.

j. The promotion of agricultural exports is a general concern which should be supported. In addition, information should be exchanged and decisions made to avoid unnecessary competition and bring about cooperative action.

In brief, and in light of past trends and current events, it is fitting to reiterate the importance of fully understanding the situation which prevails and the need for recognizing the vital contribution which agriculture makes to the socio-economic development of the countries of Latin America and the Caribbean. There is also a pressing need to adopt a new approach, to implement studies and projects which seek solutions and to systematize changes in the functions traditionally assigned to agriculture.

IICA recognizes that changes at the international, regional and national levels call for the adoption of new cooperation strategies. In that connection, it seeks to explore different alternatives for the adjustment period so as to bring about economic recovery and sustained growth. Certain positive trends have already been recorded and suggest that all this will be attainable:

a. It is estimated that the total gross domestic product of Latin America increased by 2.6 percent in 1984, after having dropped by one percent in 1982 and by slightly over three percent in 1983. Changes in the downward trend in economic activity since 1981 were widespread; GDP rose in fifteen of the nineteen countries on which comparable data are available, and declined in only two. However, this recovery was only moderate in the majority of the countries. Because of demographic growth, per capita GDP in the region rose by only 0.2 percent and declined in twelve of the nineteen countries, which is almost nine percent below the figures for 1980 and similar to those for 1976. This mild recovery rate is reflected in urban unemployment levels, which continued to rise in the majority of the countries (data from ECLA, based on official figures).

b. Prices rose sharply in Latin America, climbing from 66 percent in 1983 to 116 percent in 1984 (simple mean rate), with marked variations between the countries. However, the beginning of the economic recovery period and the exacerbation of the inflationary process were accompanied by a considerable improvement in the foreign sector, due to notable adjustment efforts in some countries of the region. This made it possible to once more reduce the deficit in the current account of the balance of payments, which fell to 3.1 billion dollars in 1984 from 40 billion dollars in 1982 or 94 percent below the figures for the 1981-1982 period.

c. The rise in exports helped to finance a moderate increase of 4.4 percent in the value of imports, offsetting the negative effect of price hikes for principal and interest. Accordingly, in 1984 the payment of interest and principal represented a lower percentage of the value of exports of goods and services (33.5 percent as compared with 35 percent in 1983 and 37 percent in 1982).

d. The year 1984 saw an end to the downward trend in capital income, which rose to 10.6 billion dollars from 4.4 billion dollars in 1983. This factor, together with the reduction of the deficit in the current account, resulted in a positive figure of more than 7.5 billion dollars in the balance of payments, which allowed for partial recovery of the level of international reserves which had dropped by more than 25 billion dollars in the last three years.

e. While the foreign debt of the region continued to grow (it was expected to reach 360 billion dollars by the end of 1984), the annual rate of growth was only 5.6 percent, which is below the eight percent for 1983, the 14 percent for 1982 and the 24 percent for 1981. Moreover, since the foreign debt grew at a slower rate than exports, in 1984 the debt-export coefficient decreased for the first time in four years, despite the fact that it continued to be very high in comparative terms at the international level.

These conditions shaped the development of agricultural activities in the region in 1984. The following pages provide a brief summary of the situation prevailing in each country.

STATUS AND TRENDS IN THE COUNTRIES

The Central Area

The economic crisis seriously affected *Costa Rica* in recent years, despite what appeared to be signs of economic recovery, such as a two percent increase in GDP in 1984, following a 1983 level of only 0.8 percent. Inflation dropped from 65 percent in 1981 and 80 percent in 1982, to less than 25 percent in 1984. Exports rose substantially; coffee exports, in particular, increased by 10.4 percent. The most noteworthy increase was a 11.3 percent rise in non-traditional exports, the most important of which include ornamental plants and flowers. The country did, however, witness a serious decline in banana exports.

Some indicators which warrant examination include the fact that the coffee harvest was slightly below that of 1983, even though improved prices compensated for this decline. Income from beef and sugar exports did not change significantly.

The country also received continual assistance in the form of credit facilities and donations which allowed it to implement effective programs, improve its balance of payments situation and finance production. Many of these resources were funneled into the agricultural sector which, in May of 1984, had commitments totalling 115.2 million dollars. However, difficulties were encountered in the implementation of the projects: only 38 percent of said funds were employed.

Agricultural production in *El Salvador* has been seriously affected by the long-standing crisis situation in that country. Accordingly, the country has had to import large quantities of foodstuffs either through purchases or donations. This phenomenon most heavily affected the lower-income sectors. Following the change of government, the country channeled its efforts into revitalizing the economy, primarily through the agricultural productive sector and the consolidation of the agrarian reform process. These actions were hampered by the shortage of resources available to carry them out. However, despite the crisis, *El Salvador* has shown some signs of prospective recovery in its levels of agricultural production.

In *Guatemala* political instability affected the public agricultural sector. However, in 1984, in response to requests submitted to the government by the rural population, a study was carried out to examine the situation, which resulted in fiscal redistribution. The community development program which emanated from this study produced partial results for those areas located in the Ixil triangle, Department of Quiche. At the same time, model villages were created in Chisec, Alta Verapaz, Playa Grande, Chacaj and Huehuetenango.

Coffee, cotton, sugar, banana and beef exports in 1984 rose moderately over the levels registered in past years; however, price trends for some of these products were not encouraging.

It should be pointed out that 1984 was highlighted by policies for crop diversification and non-traditional exports, the beginning of an agroindustrial process and the enactment of laws governing aquaculture, rubber, cardamom, edible oils, milk, fruit and seeds.

Corn became an important commodity when it was added to the list of products exportable through purchases by the European Economic Community and the United Nations.

Honduras witnessed some institutional changes, one of the most important being the increase of slightly over 50 percent in the portfolio of the National Agricultural Development Bank. However, the budgets of other state institutions were drastically cut, naturally affecting their operations.

Total production in the agricultural sector was higher than in past years, largely because of more favorable climatic conditions and possible due to the increased availability of financing. External financing through international technical and financial institutions played a major role in the development of the agencies in the public agricultural sector.

In *Mexico,* the government sought to develop all areas of production in the country, so as not to depend too heavily on oil exports. However, agriculture's contribution to GDP continued to decline, registering only eight percent in 1983 and seven percent in 1984, as compared with eleven percent in 1972. This disparity can be attributed to the fact that while 1984 exports were higher than in 1983, they fetched lower prices.

Even though agriculture was traditionally a major source of foreign exchange in *Mexico* and made industrial development possible, the purchase of basic grains also increased substantially and traditional crops showed negative balances. In 1984 the agricultural trade balance registered a sizeable deficit. The first semester showed a positive balance of slightly over six million dollars. While this is not overly encouraging, it is indicative of mild recovery. *Mexico* is attempting to increase its agricultural imports from Central America, which will naturally bring about greater cooperation with these countries.

Melon, watermelon and beans were mainly responsible for the 107.1 percent increase in the volume of exports. However, analysis of the first semester of 1984 by the Bank of Mexico revealed that the export of agricultural and forestry products increased more in volume than in value because of serious price reductions.

It should be noted that the government has set restructuring of the foreign debt as a priority and that the sector has had to adapt accordingly. Another noteworthy event was the enactment of a law establishing the National Supply System. This had a major impact on job creation, storage, marketing, transport, distribution and market standardization and information, not to mention specialized storage facilities. All of the foregoing has been backed with organizational and training efforts.

However, the government is faced with rising production costs, which increased by 270 percent from 1982 to 1984, while profits for the producer only rose by approximately 24 percent. This phenomenon has generated a slow decapitalization process in the agricultural sector because of the decreasing profitability of agricultural activities.

In *Nicaragua,* the agricultural sector showed signs of modest growth in 1984. This was largely due to the fact that the 3.2 percent reduction in the growth of the farming subsector was offset by the 7.7 percent increase in the livestock subsector. At constant prices, the agricultural product rose 2.43 percent over 1983 levels. This growth was a result of increased coffee, cotton and basic grain production and advances in the production of non-traditional crops such as cacao, rubber, African palm and coconut palm.

However, climatic conditions, such as sporadic rainfall during the course of the year, coupled with constraints due to lack of financing, largely affected the availability of capital goods and the timely arrival of inputs. There were substantial increases in products for domestic consumption such as basic grains, corn and rice (the latter surpassed all previous national production levels), but production was still unable to meet demand. Consequently, the volume of agricultural exports fell by 9.5 percent.

In *Panama,* GDP fell to 0.2 percent in 1983 because of the economic crisis, and remained at that level in 1984. However, the agricultural sector increased its contribution to a level of three percent – an improvement over the one percent of years past.

Leading exports included banana, shrimp and coffee; however, beef exports declined. The new government implemented a fiscal austerity plan and expressed its intention to improve the efficiency of the public sector. This policy presupposes decreased state inter-

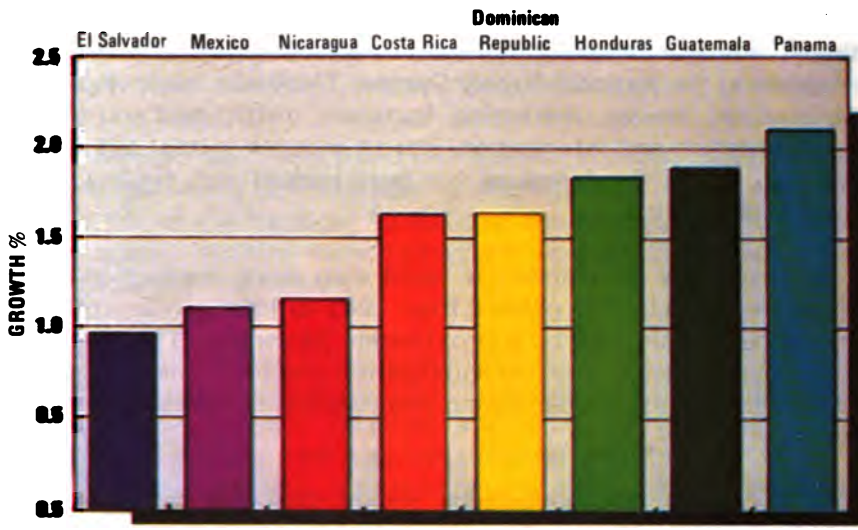


Fig. 17. Growth in the percentage of grain used for animal feed between 1969-1971 and 1979-1981. Area 1 — Central.

vention in production and marketing, with the allocation of resources being left to market forces and the private sector. Specific measures, such as price policy revisions, have been explored for this purpose. MIDINRA was also restructed.

In the *Dominican Republic,* which has not been spared the economic woes affecting other countries in the hemisphere, the government undertook rigorous measures to renegotiate its foreign debt, which also affected the agricultural sector. Other noteworthy actions included continued efforts by the Secretariat of State for Agriculture and the National Price Stabilization Institute to consolidate marketing services.

Falling sugar prices had an unfavorable effect on foreign exchange earnings; however, some success was achieved with the production of other crops.

The Caribbean Area

Barbados, the easternmost of the Caribbean islands, is one of the most densely populated countries in the world (629 inhabitants per

square kilometer). When production and economic growth began to decline in 1982, the government established certain production and program goals which, in 1984, brought about a 3.5 percent increase over 1983 levels. This included a significant increase of 18 percent in sugar cane production.

This means that the foundation has now been laid for a development program to render the sugar cane industry more efficient. Sizeable resources are also being used to improve the production of non-traditional crops such as vegetables and fruit trees. The major obstacles to this plan will be the fall in international sugar prices, the increase in food imports and the decline in the percentage of employed in the agricultural sector, because of the trend toward tourism and manufacturing.

Guyana is faced with serious economic problems. The government has placed a high priority on such projects as water control, oil palm production, increased grain legume production and large-scale rice and livestock production, through possible phase two financing from the IDB.

The government's programs reflect a desire to increase the production of dairy products threefold by 1989. The opening of the National Institute for Agricultural Research marked an important step, and will be complemented by appropriate training and information programs.

In *Haiti,* the deterioration of the balance of payments, inflation and a high rate of unemployment have had an unfavorable effect on the country's agricultural policies. Steady demographic growth has resulted in a reduction in per capita agricultural production.

In the last two years three important reorganization efforts took place in the public agricultural sector. However, because of a lack of internal financing, these initiatives are almost entirely dependent on the procurement of external financing for the implementation of the plans and programs they involve.

In *Jamaica,* plans for structural changes in the sector are still underway, and the Ministry of Agriculture has been granted the task of overseeing matters concerned with science, technology and the environment, even though the new Five-Year Plan is still in progress.

The production of major export items continued to decline. However, there was a noteworthy increase in vegetable exports, particularly tomatoes and peppers.

A program known as AGRO-21, the largest in the country, envisages an increase in food production, rural employment, and import substitution for principal foodstuffs. This program covers eighteen subsectors which range from bananas to cacao and include such items as rice, tobacco, pineapple, cassava and beef.

The government has stated its intention to achieve a significant reduction in its dependency on imports within four years time, and hopes to achieve a 100 percent increase in beef production, 125 percent in fish, 75 percent in rice, 45 percent in soybean, 30 percent in cassava, and ten percent in milk, by 1987. On the basis of current calculations, this would represent a savings of US$ 130 million in foreign exchange.

The cases of *Saint Lucia, Dominica* and *Grenada* are difficult to analyze individually, given inherent similarities and the fact that each of these countries is heavily dependent on agriculture. Sectoral plans in each instance reflect a common need to substitute food imports and diversify production, increase productivity and implement soil conservation, protection and reclamation practices.

Some of the obstacles to such an approach are related to antiquated land tenure systems, sub-utilization of land resources and poorly organized internal markets. In addition, the nature of the terrain itself poses serious constraints, with its vulnerability to hurricanes and other natural disasters, and the sector is widely exposed due to its dependency on a very limited number of crops.

For the reasons stated above, these countries require a substantial amount of external assistance, both technical and financial, to achieve their goals in this sector. As pointed out by the Prime Minister of *St. Lucia* in November 1984: "To restart the engine of growth we have had to call upon the large reserves of goodwill in the international community."

In *Suriname* rice production has played a leading role in the sector's plans, and the same could be said of oil palm production in recent years. Over the 1976-1984 period, rice production increased by approximately 50 percent and since 1975 oil palm production has increased, in terms of area cultivated, from 1 645 ha to 4 000 ha.

However, the production of other crops in the country has either decreased or remained constant, with the exception of some vegetables, the demand for which in other countries precipitated an increase in local production.

In the livestock sector, milk production rose as a result of an increase in prices paid to producers by state-owned processing plants. The public sector, due to changes at different levels, is currently being restructured.

In *Trinidad and Tobago,* government efforts centered on such aspects as the rehabilitation of cacao, and research and establishment of an agricultural information system, as well as participation in a multinational plant protection program for the Caribbean region.

This country shares problems common to others in the area, even though the composition of its resources and sources of income differ considerably from those of the other Caribbean nations.

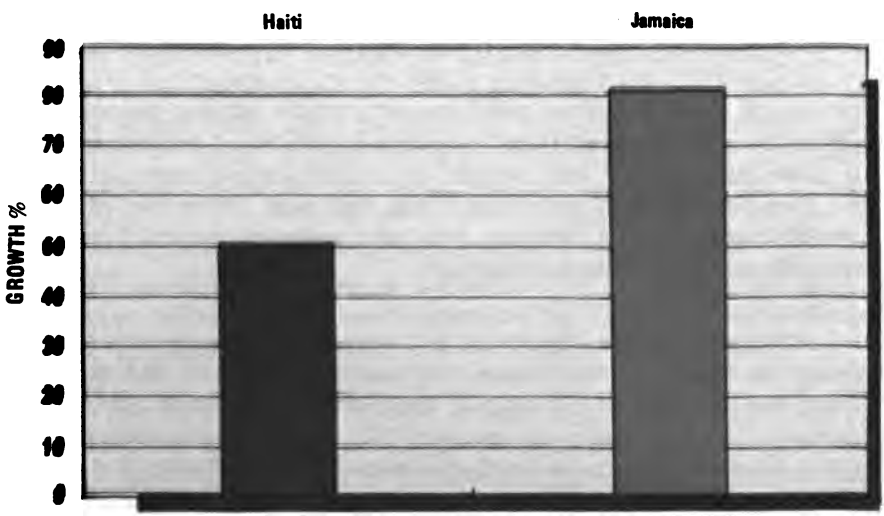


Fig. 18. Growth in the percentage of grain used for animal feed between 1969-1971 and 1979-1981. Area 2 – Caribbean.

The Andean Area

In *Bolivia,* the growth rate of the gross agricultural product, which had dropped during the 1971-1977 period and recovered moderately between 1977 and 1982, once more showed signs of decline over the last three years, following the 2.28 percent drop registered in 1982.

In relative terms, the agricultural sector's contribution to GDP was relatively constant, registering sustained growth as of 1982. However, gross value of production was highly erratic, both for agriculture and livestock, but not for forestry, which registered a significant increase on the order of 8.4 percent. This situation is a product of the deterioration of the terms of trade for agricultural and livestock products.

Government action was hampered by constraints inherent in the formulation of a rural development policy. These constraints included an accelerated inflationary process, which seriously limited the ability to assume new commitments and significantly reduced national counterpart contributions to agreements signed with international lending institutions. However, integrated agricultural development projects managed to overcome some of these difficulties and it is hoped that they will produce the desired results.

In *Colombia,* within the framework of the national policy to expand exports, cotton production increased by approximately 123 percent; banana production, by 51 percent; and coffee production, by 23.4 percent. As a result of a decrease in the volume of exports to *Venezuela,* milk and dairy products registered a surplus of more than 6 800 tons, while agricultural products experienced a slight decrease in total area planted with annual crops and a significant increase in the area planted with perennial crops, the most important of which are African palm and bananas. Fruit and vegetable production at the national level increased substantially.

Colombia's agricultural policy has been geared toward the restructuring of national institutions, the capitalization of the Agrarian Fund, the creation of the Cacao, Grain and Rice Funds, the reform of the agricultural research system (ICA), the financing and restructuring of the Agricultural Marketing Institute (IDEMA) and the food marketing system, a land improvement program, which includes the use of irrigation and drainage to reclaim 610 000 ha, export promotion, credit policies, etc.

Ecuador is an interesting example of economic recovery, marked by economic growth on the order of two percent in 1984, with a sixty percent increase in credit to the agricultural sector. The increase in agricultural exports was particularly noteworthy in the cases of cacao, coffee and shellfish.

The new government has focused its attention on the public agricultural sector and the restructuring thereof. The results achieved to date are extremely encouraging, namely ten percent growth, largely influenced by more favorable climatic conditions than experienced in previous years (rains and flooding). The government started to implement a series of price and credit policies designed to revitalize this sector, in particular price supports and an administrative decentralization program.

In *Peru,* the natural disasters of 1983 and the prolonged drought in the South caused a reduction in the agricultural product on the order of eight percent. In response to these events, an emergency program was designed which envisaged the reconstruction of irrigation infrastructure,the refinancing of sixty percent of all loans and the design of a price system of a promotional nature.

These measures, together with the favorable climatic conditins, (from an agricultural perspective) in 1984 produced an excellent rice harvest, a decrease in corn imports and prospects for healthy yields of gains such as beans, soybeans and sorghum. Preliminary year-end estimates for 1984 called for a sixteen percent increase in the agricultural product, even though the livestock sector will show a reduction of close to four percent. The average increase in the sector, in general terms, was eleven percent in 1984. This phenomenon, coupled with the fiscal and monetary measures adopted by the government, could be cause for more dynamic and sustained growth.

In *Venezuela,* the agricultural sector's contribution to GDP declined steadily to as low as 5.9 percent of the total. This decline was reflected in the extremely negative agricultural trade balance, despite the country's paradoxically high agricultural potential.

The Ministry of Agriculture's prognosis suggests that exchange policies could stimulate national production through import substitution. At the same time, the government has resolved to incorporate the private sector into the policy-making process by affording it the opportunity to be represented. This will be a key feature in the establishment of future price policies.

The selection of high-priority products was based on needs, and national planning efforts have set sustained development as a main objective. It is hoped that this measure will revitalize the sector so as to reduce the deficit in the agricultural trade balance by 50 percent within four years time and raise its participation to over ten percent of national GDP.

The Southern Area

In 1984 the public agencies of *Argentina* responsible for drafting and implementing policies for the agricultural sector went through an adjustment period. In October the first draft of the National Agriculture Program (PRONAGRO) for 1984-1987 was presented as a proposal for the adoption of specific plans to support the sector through political and technical coordination efforts.

The program is based on a clear rationale which constitutes its basic framework: in view of the serious balance of payment crisis and excessive foreign debt, the recovery and revitalization of the produc-

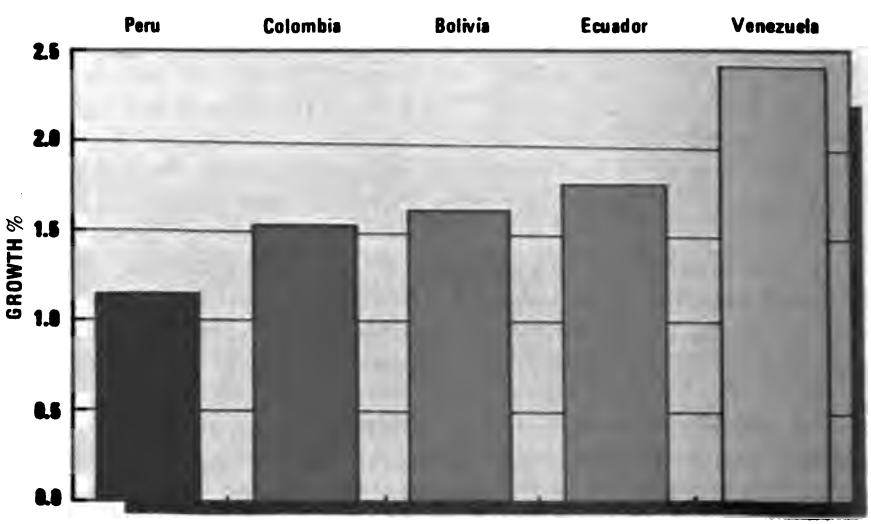


Fig. 19. Growth in the percentage of grain used for animal feed between 1969-1971 and 1979-1981. Area 3 – Andean.

tive base of the Argentinian economy calls for a reassessment of the strategic role to be played by the agricultural sector as both a supplier of export earnings and a source of food for domestic consumption.

PRONAGRO is designed to serve as a stable and consistent frame of reference which will eliminate uncertainty and inspire confidence in the economy, so as to encourage investment and savings decisions which are the key to sustained development in the sector.

The Secretariat for Agriculture and Livestock (SAG) is the entity which acts as guide, coordinator and spokesman. In order to carry out this function competently, the SAG will strengthen its institutional capacity in the area of planning and ongoing evaluation of PRONAGRO's socio-economic impact and the policies and projects which result from its implementation.

In the case of *Brazil,* the agricultural sector held a high priority for government strategy and policies in 1984. The country's real economic growth rose by 4.1 percent over the previous year. The 3.9 percent growth in the agricultural sector was largely due to an increase in the production of beans (66 percent), cotton (24 percent), yams (22 percent), rice (16 percent), etc., which compensated for losses in cacao, coffee, wheat and livestock.

In response to the problems of foreign debt accumualtion and spiralling inflation, the country established rigorous stabilization and economic policies. Thanks to its favorable trade balance, *Brazil* was able to implement the above-mentioned policies which included an increase in the cost of credit for the agricultural sector. This last item warrants special attention because of its obvious effect on the distribution of resources for the production of food and export items.

Both research and rural extension efforts were emphasized in the public agricultural sector. Programs in these areas were not only implemented, but are being substantially expanded with the aid of international technical and financial cooperation.

Chile's GDP in 1984 increased by approximately 5.9 percent, but its foreign debt problem persisted. The agricultural sector witnessed an increase of 6.7 percent, which was the outcome of policies to promote the export sector, with particular emphasis on fruits and vegetables, as well as those products which have experienced a deficit, such as wheat, sugar beets and edible oils.

The government's most important guiding principle has been the Three-Year Plan. This is a tool for planning the country's activities and setting guidelines for action in emerging situations and over the medium and long term.

The Three-Year Plan is based on one macroeconomic and ten sectoral programs. In the agricultural sector, attention is focused on marketing and the transfer of technology. Furthermore, plant protection, animal health and renewable natural resources programs were developed alongside an agricultural project system and a project to upgrade numerical information.

In *Paraguay,* the government continued to implement an austerity plan through a reduction in public spending. In the agricultural sector, however, there was a notable increase marked by high levels of soybean and cotton production, accompanied by favorable prices for these products.

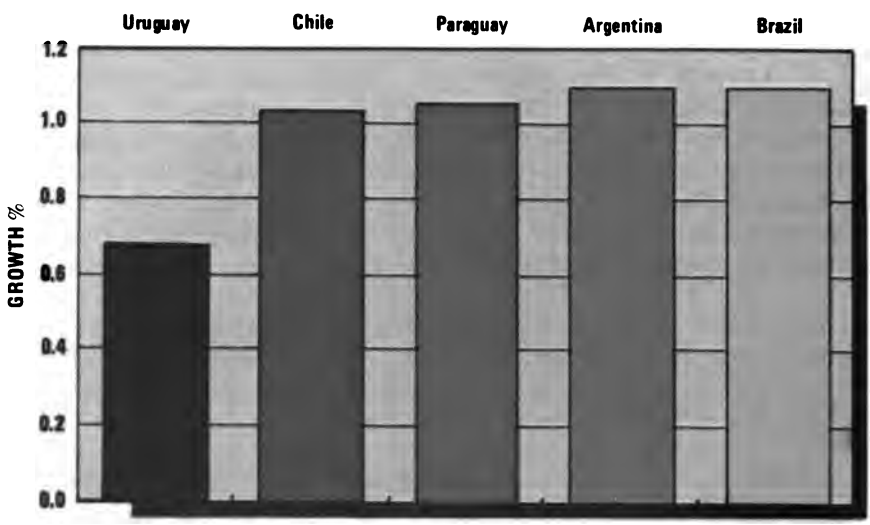


Fig. 20. Growth in the percentage of grain used for animal feed between 1969-1971 and 1979-1981. Area 4 — Southern.

Wheat production reached extremely high levels, enabling the country to become almost entirely self-sufficient in spite of freezes in the wheat-growing regions. However, the lack of adequate storage facilities in wheat-producing zones made it impossible to take maximum advantage of this success. This suggests that any production which exceeds 80 000 MT will naturally occasion losses at the farm level unless the storage problem is resolved.

The crop diversification policy was continued and in 1984 serious corn and rice production efforts were undertaken. Cotton production continued to be threatened by the possible introduction of the boll weevil, which had been detected in neighboring areas. The Ministry of Agriculture and Livestock launched detection and prevention actions and established an information system which is being implemented in conjunction with *Brazil* and *Argentina.*

Despite problems earlier in the year, vegetable and beef exports rose toward the end of 1984. The former were affected by the situation in *Argentina* and the latter by the reduction in European Economic Community (EEC) subsidies.

In *Uruguay,* the economy continued to be affected by the adjustment process initiated in 1982. This process was characterized by the adoption of radical exchange measures which precipitated a transfer of income in favor of livestock and industrial exports, as well as more attractive prices than neighboring countries.

The agricultural sector remained unchanged, registering levels similar to those for 1983. The volume of farm production increased for almost all products, but the two major livestock products, beef and wool, experienced an appreciable decline.

Increased participation on the part of cooperatives had a considerable impact on crop trading. This led to the creation of the first Grain Cooperative Exchange, patterned after the Wool Cooperative Exchange and Beef Cooperative Exchange.

Regarding new projects of national priority, special reference should be made to the participation of technical and financial cooperation agencies in two projects: Development of the Northeastern Slope and Development of the Outskirts of Tacuarembo, which include cooperatives and assistance for low-income farmers.

TABLE No. 1. Growth in per capita gross domestic product (in percentages).

Area	Countries	Average Annual Growth			Annual Variation
		1961-1970	1971-1975	1976-1980	1983
CENTRAL	*Costa Rica*	3.3	3.4	2.6	−1.7
	Dominican Republic	3.1	6.7	2.0	1.8
	El Salvador	2.6	2.4	−1.7	−2.9
	Guatemala	2.5	2.3	2.4	−5.1
	Honduras	1.8	−0.8	4.0	−4.1
	Mexico	3.6	3.4	3.5	−7.1
	Nicaragua	4.4	2.7	−4.4	0.4
	Panama	5.8	2.3	4.0	−1.5
CARIBBEAN	*Barbados*	5.9	−0.6	2.8	−0.3
	Dominica	n.a.	n.a.	n.a.	n.a.
	Grenada	n.a.	n.a.	n.a.	n.a.
	Guyana	1.9	2.5	−1.1	−11.4
	Haiti	−0.8	2.2	3.7	−0.3
	Jamaica	3.9	0.6	−4.1	1.4
	Saint Lucia	n.a.	n.a.	n.a.	n.a.
	Suriname	n.a.	2.6[a]	4.8	0.2
	Trinidad and Tobago	3.2	2.3	4.7	−4.8
ANDEAN	*Bolivia*	2.3	3.1	0.5	−10.1
	Colombia	3.1	3.5	3.2	−1.7
	Ecuador	1.8	8.4	3.4	−6.1
	Peru	2.5	3.3	−0.7	−13.9
	Venezuela	2.6	2.6	0.4	−6.7
SOUTHERN	*Argentina*	2.8	1.2	0.5	0.8
	Brazil	3.3	7.7	4.3	−5.7
	Chile	2.1	−3.5	5.6	−2.5
	Paraguay	2.0	4.2	7.9	−5.3
	Uruguay	1.0	1.1	4.0	−4.5

a. 1974-1975

Source: Inter-American Development Bank (IDB). **Economic and Social Progress in Latin America.** 1984 Report. Washington, D.C., 1984.

TABLE No. 2. Growth in the aggregate value of agricultural production (in percentages).

Area	Countries	Average Annual Variations			Annual Variation
		1961-1970	1971-1975	1976-1980	1983*
CENTRAL	*Costa Rica*	5.2	3.4	1.9	4.4
	Dominican Republic	1.7	3.1	3.9	3.5
	El Salvador	4.1	4.7	1.6	0.0
	Guatemala	4.5	6.2	3.2	−2.5
	Honduras	5.6	−0.6	7.1	−0.8
	Mexico	3.9	3.0	3.9	3.4
	Nicaragua	6.9	4.9	−3.7	11.7
	Panama	5.5.	1.4	2.0	3.9
CARIBBEAN	*Barbados*	1.0	−6.1	2.8	1.0
	Dominica	n.a.	n.a.	n.a.	n.a.
	Grenada	n.a.	n.a.	n.a.	n.a.
	Guyana	1.2	0.8	0.6	−4.7
	Haiti	0.8	2.3	0.9	3.1
	Jamaica	1.5	15	−0.5	8.2
	Saint Lucia	n.a.	n.a.	n.a.	n.a.
	Suriname	n.a.	10.2[a]	5.0	3.9
	Trinidad and Tobago	2.0	1.1	−4.9	−5.9
ANDEAN	*Bolivia*	3.0	5.6	2.2	−22.0
	Colombia	3.7	4.5	4.3	− 2.1
	Ecuador	4.3	4.1	1.9	−14.9
	Peru	4.3	−0.1	0.3	−11.5
	Venezuela	5.6	3.7	2.4	0.0
SOUTHERN	*Argentina*	2.5	2.8	1.3	2.1
	Brazil	3.2	6.5	4.7	2.2
	Chile	2.2	2.3	3.1	−0.9
	Paraguay	3.0	7.4	7.3	−4.8
	Uruguay	3.8	−1.1	2.8	−2.6

* Preliminary estimate.

a. 1973-1975

Source: Inter-American Development Bank (IDB). **Economic and Social Progress in Latin America.** 1984 Report. Washington, D.C., 1984.

TABLE No. 3. Urban and rural population by country, 1960-1983 (in thousands of inhabitants).

Country	1960			1983*		
	Urban	Rural	% Urban	Urban	Rural	% Urban
Argentina	15 172	5 173	74.6	24 357	4 989	83.0
Bahamas	79	40	66.4	121	120	50.2
Barbados	94	40	40.9	126	130	49.2
Bolivia	887	2 407	26.9	2 025	4 057	33.3
Brazil	33 068	39 257	45.7	91 918	36 308	71.7
Chile	5 018	2 578	66.1	9 653	2 034	82.6
Colombia	8 256	8 957	48.0	20 548	7 332	73.7
Costa Rica	410	910	31.1	1 141	1 237	48.0
Dominican Republic	1 138	2 303	33.1	3 152	2 864	52.4
Ecuador	1 515	2 914	34.2	4 351	4 386	49.8
El Salvador	935	1 726	35.1	2 593	2 667	49.3
Guatemala	1 347	2 574	34.4	2 462	5 065	32.7
Guyana	175	429	29.0	227	583	28.0
Haiti	388	3 187	10.9	1 422	3 846	27.0
Honduras	438	1 550	22.0	1 553	2 514	38.2
Jamaica	381	1 301	22.7	957	1 291	42.6
Mexico	18 796	18 277	50.7	49 238	22 748	68.4
Nicaragua	545	958	36.3	1 439	1 163	55.3
Panama	441	779	36.1	1 149	885	56.5
Paraguay	605	1 354	30.9	1 341	2 064	39.4
Peru	4 630	5 755	44.6	12 346	6 361	66.0
Suriname	173	125	58.1	175	218	44.5
Trinidad and Tobago	325	580	35.9	545	547	49.5
Uruguay	2 006	61	76.6	2 462	473	83.9
Venezuela	4 901	2 745	64.1	10 648	4 392	70.8
LATIN AMERICA	101 723	106 076	48.8	245 949	118 284	67.5

* Preliminary estimate.

Note: Data are based on recent census information from the countries.

Source: Inter-American Development Bank (IDB). **Economic and Social Progress in Latin America.** 1984 Report. Washington D.C., 1984.

TABLE No. 4. Per capita gross domestic product (dollars in 1982).

Area	Countries	1960	1970	1980	1983
CENTRAL	*Costa Rica*	956.9	1 313.1	1 765.9	1 466.2
	Dominican Republic	596.6	787.8	1 203.4	1 212.7
	El Salvador	609.5	784.5	801.7	632.0
	Guatemala	841.4	1 082.8	1 413.2	1 235.3
	Honduras	536.0	640.1	746.2	665.3
	Mexico	1 103.7	1 504.9	2 284.7	2 170.7
	Nicaragua	806.0	1 237.9	1 062.9	1 088.7
	Panama	884.0	1 546.9	2 089.0	2 159.2
CARIBBEAN	*Barbados*	1 585.6	2 706.9	3 010.7	2 753.6
	Dominica	n.a.	n.a.	n.a.	n.a.
	Grenada	n.a.	n.a.	n.a.	n.a.
	Guyana	721.0	851.0	905.2	711.5
	Haiti	271.9	248.9	332.0	310.0
	Jamaica	1 385.6	2 019.5	1 675.2	1 714.4
	Saint Lucia	n.a.	n.a.	n.a.	n.a.
	Suriname	n.a.	n.a.	2 615.4	2 336.4
	Trinidad and Tobago	1 580.1	2 157.6	3 029.1	3 011.6
ANDEAN	*Bolivia*	440.9	549.7	654.8	505.2
	Colombia	565.0	764.0	1 059.0	1 033.8
	Ecuador	581.9	696.6	1 216.5	1 141.1
	Peru	814.2	1 051.3	1 135.0	959.9
	Venezuela	2 053.6	2 649.2	3 063.7	2 732.4
SOUTHERN	*Argentina*	1 585.6	2 064.9	2 239.6	1 946.2
	Brazil	760.7	1 078.3	1 924.3	1 717.8
	Chile	1 413.1	1 734.6	1 877.8	1 602.3
	Paraguay	612.8	743.5	1 335.5	1 271.2
	Uruguay	1 710.1	1 887.3	2 426.6	2 078.3

* Preliminary estimate.

Source: IICA, 1984.

TABLE No. 5. Growth in the percentage of grain used for animal feed between 1969-1971 and 1979-1981.

Country	Growth
Argentina	1 102
Bolivia	1 625
Brazil	1 103
Chile	1 037
Colombia	1 526
Costa Rica	1 636
Dominican Republic	1 649
Ecuador	1 750
El Salvador	0 962
Guatemala	1 900
Haiti	50 000
Honduras	1 857
Jamaica	80 476
Mexico	1 105
Nicaragua	1 158
Panama	2 125
Paraguay	1 057
Peru	1 143
Uruguay	0 689
Venezuela	2 412

Source: Kaminsky, M., **The State and Dynamics of Agriculture and Rural Development in Latin America and the Caribbean,** Division of Analysis and Studies, IICA, Kingston, Jamaica, 1983.

chapter II

The Institute and its Purposes

Introduction

The recommendations of Resolution AG/Res.331(VIII-0/78) of the General Assembly of the Organization of American States (OAS) on "the preparation of reports by the governing bodies, organizations and entities of the Organization" were observed in the writing of this report.

Background, Legal Foundation, Structure and Goals

The Inter-American Institute for Cooperation on Agriculture (IICA) is the specialized agency in agriculture in the inter-American sphere. It is active on the economic, social and political fronts of the Member States, which dictate IICA's general policies on the basis of ongoing changes in their own economic, social, political and institutional processes.

In October 1942, the Governing Board of the Pan American Union

approved the establishment of the Inter-American Institute of Agricultural Sciences. In 1944, the Institute's Convention was opened to the signature of the American countries. The Board of Directors, in a meeting in 1970, approved a Resolution to amend the Convention and expand its fields of action to strengthen the Institute. The new Convention on the Inter-American Institute for Cooperation on Agriculture was opened to the signature of the Member States in March 1979 and was ratified on December 8, 1980.

The Institute's purposes are to encourage, promote and support the efforts of the Member States to achieve their agricultural development and rural wellbeing. The Convention assigns IICA the following functions to achieve its purposes: 1) promote the strengthening of national institutions; 2) formulate and execute plans, programs, projects and activities, in accordance with the needs of the governments of the Member States; 3) establish and maintain relations of cooperation and coordination with the Organization of American States (OAS) and with governmental and non-governmental entities that pursue similar objectives; and 4) act as an organ for consultation, technical execution and administration of programs and projects in the agricultural sector, through agreements with the OAS or with national, inter-American or international agencies and entities.

IICA's governing body is the Inter-American Board of Agriculture, which meets every two years, and is presently integrated by the 29 Member States. The Second Regular Meeting of the Inter-American Board of Agriculture was held from 24 to 28 of October 1983 in Kingston, *Jamaica,* upon the invitation of that Member State. The Executive Committee is another of IICA's governing bodies, which is integrated by 12 Member States elected for a two-year period, on a rotating basis, as determined by the Board. The Executive Committee meets regularly once a year and is responsible, among other things, for preparing the meetings of the Inter-American Board of Agriculture. In 1984, the Fourth Regular Meeting of the Executive Committee was held at the Central Offices in San Jose, Costa Rica, from 2 to 7 of December 1984.

The General Directorate is the Institute's body for implementation, which is under the charge of the Director General, who is responsible for carrying out the resolutions and mandates of the Board. The Institute is headquartered in San José, *Costa Rica,* and presently maintains offices in 29 countries in the Hemisphere.

IICA's structure is made up of certain units that fall immediately under the General Directorate, and others that have different kinds of budgetary and contractual ties with IICA. These components are:

- The Central Office of the General Directorate (IICA Headquarters).
- Area Offices.
- National Offices.
- Specialized Centers.
- Associated Entities.

Page 52 contains the Institute's organizational chart, illustrating the inter-relationships among the different structural components.

1. THE CENTRAL OFFICE OF THE GENERAL DIRECTORATE

The Central Office houses the directive, supervisory and support units for the decentralized offices. It also headquarters external relations and resource monitoring.

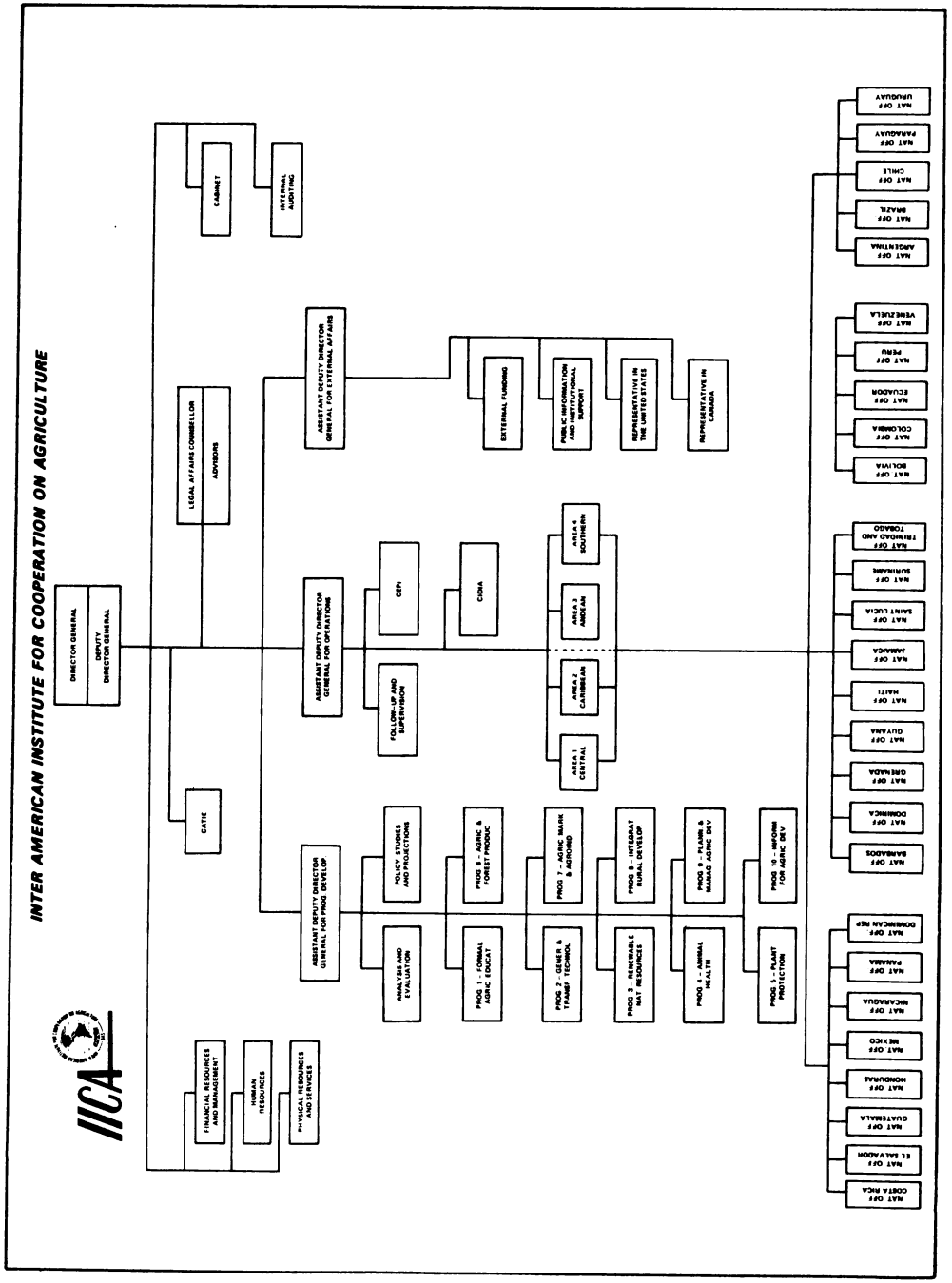
a. The Office of the Director General

The Director General and the Deputy Director General have been combined into a single office, which also includes the Director of the Cabinet, the Director General's Special Advisors on technical, financial and legal matters, the Directorate of Financial Resources and Management, the Directorate of Human Resources, the Directorate of Physical Resources and Services, and the In-House Auditor.

b. Office of the Assistant Deputy Director General for Operations

The main function of the Office of the Assistant Deputy Director General for Operations is to see that IICA's programs and projects are implemented efficiently, and to coordinate all operations, regardless of source of funding. This office is delegated the authority of representing the Director General in decisions on Institute operations.

The Office of the Assistant Deputy Director General for Operations has a geographically decentralized structure. Its components include the National Offices, the Area Offices, and at


INTER AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE
IICA
DIRECTOR GENERAL
DEPUTY DIRECTOR GENERAL
LEGAL AFFAIRS COUNSELLOR
ADVISORS
CABINET
INTERNAL AUDITING
ASSISTANT DEPUTY DIRECTOR GENERAL FOR EXTERNAL AFFAIRS
EXTERNAL FUNDING
PUBLIC INFORMATION AND INSTITUTIONAL SUPPORT
REPRESENTATIVE IN THE UNITED STATES
REPRESENTATIVE IN CANADA
ASSISTANT DEPUTY DIRECTOR GENERAL FOR OPERATIONS
CEPI
CIDIA
FOLLOW-UP AND SUPERVISION
AREA 1 CENTRAL
AREA 2 CARIBBEAN
AREA 3 ANDEAN
AREA 4 SOUTHERN
ASSISTANT DEPUTY DIRECTOR GENERAL FOR PROGRAMS
POLICY STUDIES AND PROJECTIONS
ANALYSIS AND EVALUATION
PROG 0 - AGRIC & FOREST PRODUC
PROG 1 - FORMAL AGRIC. EDUCAT
PROG 7 - AGRIC MARK & AGROIND
PROG 2 - GENER & TRANSF. TECHNOL
PROG 8 - INTEGRAT RURAL DEVELOP
PROG 3 - RENEWABLE NAT. RESOURCES
PROG 9 - PLANS & MANAG AGRIC DEV
PROG 4 - ANIMAL HEALTH
PROG 10 - INFORM FOR AGRIC DEV
PROG 5 - PLANT PROTECTION
CATIE
FINANCIAL RESOURCES AND MANAGEMENT
HUMAN RESOURCES
PHYSICAL RESOURCES AND SERVICES
NAT OFF COSTA RICA
NAT OFF EL SALVADOR
NAT OFF GUATEMALA
NAT OFF HONDURAS
NAT OFF MEXICO
NAT OFF NICARAGUA
NAT OFF PANAMA
NAT OFF DOMINICAN REP
NAT OFF BARBADOS
NAT OFF DOMINICA
NAT OFF GRENADA
NAT OFF GUYANA
NAT OFF HAITI
NAT OFF JAMAICA
NAT OFF SAINT LUCIA
NAT OFF SURINAME
NAT OFF TRINIDAD AND TOBAGO
NAT OFF BOLIVIA
NAT OFF COLOMBIA
NAT OFF ECUADOR
NAT OFF PERU
NAT OFF VENEZUELA
NAT OFF ARGENTINA
NAT OFF BRAZIL
NAT OFF CHILE
NAT OFF PARAGUAY
NAT OFF URUGUAY

headquarters in San Jose, the Investment Projects Center (CEPI) and the Inter-American Agricultural Documentation and Information Center (CIDIA), which provide direct services to the countries. This office also includes the Directorate of Follow-up and Supervision and the Directorate of Special Funds and Projects.

c. Office of the Assistant Deputy Director General for Program Development

The Office of the Assistant Deputy Director General for Program Development is responsible for the type and quality of IICA's technical work. It conducts the entire participatory process, including the identification of priority problems, the design, review and revision of the Institute's programs and projects, the development of technical strategies to be followed, and evaluation of the technical quality and results of the execution of the biennial program-budget.

d. Office of the Assistant Deputy Director General for External Affairs

This Office is in charge of official relations with IICA's Inter-American Board of Agriculture and Executive Committee and with the Member States and Permanent Observers. It also maintains institutional relations with other countries and with international public and private groups and organizations that cooperate with IICA in technical and financial resources.

2. AREA OFFICES

The Area Offices, which answer to the Office of the Assistant Deputy Director General for Operations, are an important part of the Institute's decentralized geographic structure. They help keep the administrative, technical and operational performance of the Institute efficient and effective. They function through delegation of authority and responsibility, a flexible process of decision-making, the assignment of a high percentage of personnel to the field, and effective use of personnel at the area level and from one area to another.

The Area Offices, as per the 1983-1987 Medium-Term Plan, are:

Area 1 — **Central:** Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama.

Area 2 — **Caribbean:** Barbados, Dominica, Grenada, Guyana, Haiti, Jamaica, Saint Lucia, Suriname and Trinidad and Tobago.

Area 3 — **Andean:** Bolivia, Colombia, Ecuador, Peru and Venezuela.

Area 4 — **Southern:** Argentina, Brazil, Chile, Paraguay and Uruguay.

The presence of Offices at this hierarchical level allows for smooth, functional relations among the various countries of each Area, among different Areas, and between the Areas and the Central Office of the General Directorate. These Offices provide direct channels of communication and lines of authority.

The Area Offices are located in: *Costa Rica* (Central), *Jamaica* (Caribbean), *Peru* (Andean) and *Uruguay* (Southern). They also act as the National Offices for these countries, with the Area Director serving as National Office Director and Representative to the host country.

3. NATIONAL OFFICES

The technical composition of each office depends on at least the following factors:

a. Conditions in the country and its agriculture.

b. Projects and activities agreed upon between IICA and the country.

c. The number and magnitude of projects funded with external resources.

The main functions of IICA's Offices and Directors in the Member States are to:

a. Administer the human, physical and financial resources for the office's different projects and activities.

b. Supervise, coordinate and support the different projects and activities underway in the country or related to it.

c. Represent the Director General in the country.

d. Provide administrative support to Program Directors headquartered in the country.

e. Obtain, assess and release information on the most significant problems of agricultural development and rural well-being in the country and on office activities.

f. The Office Directors should provide technical expertise in their fields of specialization, whenever necessary.

4. SPECIALIZED CENTERS

The specialized centers are: the Inter-American Agricultural Documentation and Information Center (CIDIA); the Investment Projects Center (CEPI); and the Tropical Agriculture Research and Training Center (CATIE). The first two are part of IICA and report to the Assistant Deputy Director General for Operations; CATIE is a civil association established by means of a contract signed between IICA and the Government of Costa Rica.

CIDIA provides services to the member countries in the areas of information and documentation for agricultural development and rural well-being. The need for these services was underscored in Recommendations 1, 2 and 19 of the Eighth Inter-American Conference on Agriculture.

CEPI was introduced into the system in response to paragraph b, Article 4 of the new Convention, and Recommendation 13 of the Eighth Inter-American Conference on Agriculture, on the identification, formulation and management of projects for agricultural development and rural well-being. Its general objective is to advise, provide brokerage, study, prepare and cooperate with the member countries and with the Institute, in identifying and formulating projects funded with external and quota resources.

CATIE is an associated center of the system, with organizational features that give it the operational independence and flexibility it needs. At the same time, its ties with IICA ensure sound technical, administrative and financial operations. Its general objectives are post-graduate research and training in agricultural, forest, and related sciences.

Under the Institute's new general policies and the guidelines of the 1983-1987 Medium-Term Plan, these centers provide support and technical reinforcement to the programs in matters related to their fields of competence.

5. ASSOCIATED ENTITIES

In addition to these Programs and Center, IICA operates through agreements and contracts signed with other entities in areas of mutual technical or scientific concern. Specific descriptions of organizations with which IICA entered into agreements and contracts during 1984 can be found in the pertinent chapter of this report.

Progress made in Implementing Mandates, Recommendations and Resolutions

a) Progress made in implementing the resolutions issued by the Executive Committee at its Fourth Regular Meeting (2 to 7 December, 1984).

- **Resolution No. 16:** Recording System for the Executive Committee and the Inter-American Board of Agriculture (IICA/CE/Res.16(IV-0/84)).

  In accordance with the requirements of this Resolution, the Director General submitted to the Executive Committee document IICA/CE/Doc.93(IV-0/84), and a pertinent Draft Resolution.

- **Resolution No. 17:** Site and Date of the Fifth Regular Meeting of the Executive Committee (IICA/CE/Res.17(IV-0/84)).

The Fifth Regular Meeting was convoked at IICA's Central Offices from July 29 to August 2, 1985. All Member States and other participants were invited in accordance with the established guidelines.

– **Resolution No. 18:** IX Inter-American Conference on Agriculture (IICA/CE/Res.18(IV-0/84)).

Pursuant to this Resolution, the Director General is submitting a Report to the Committee and a Draft Resolution for the consideration of the Inter-American Board of Agriculture on the convenience of holding the IX Inter-American Conference on Agriculture in 1987.

– **Resolution No. 19:** Modification of Several Provisions of the Rules of Procedure of the General Directorate (IICA/CE/Res. 19(IV-0/84)).

Pursuant to the terms of this Resolution, the Director General is submitting to this Committee a document, which proposes changes to the Financial Rules and the Staff Rules, by virtue of the modifications to the Rules of Procedure of the General Directorate, which were approved by the Executive Committee at its Fourth Regular Meeting.

– **Resolution No. 20:** Implementation of the Financial Rules (IICA/CE/Res.20(IV-0/84)).

The Director General is submitting to this Committee a report on the results of the implementation of the Proposed Financial Rules, with recommendations for changes in the Financial Rules and the Rules of Procedure of the General Directorate.

– **Resolution No. 21:** Modification of Article 82 of the Rules of Procedure of the General Directorate (To Establish a Fixed Asset Fund) (IICA/CE/Res.21(IV-0/84)).

The Fourth Meeting of the Executive Committee had already approved a Draft Resolution in this regard, which will be submitted for the consideration of the Third Regular Meeting of the Inter-American Board of Agriculture; a report will be presented to the Committee.

– **Resolution No. 22:** External Auditors' Report (IICA/CE/Res.22 (IV-0/84)).

The External Auditors' 1984 Report was sent to the Member States by the due date recommended to the Director General in this Resolution. The recommendation was included in the Proposed Financial Rules of IICA.

– **Resolution No. 23:** Quarterly Financial Progress Reports (IICA/CE/Res.23(IV-0/84)).

In compliance with this Resolution, the unaudited quarterly progress report for the first quarter of 1985 will be sent to all the Institute's Member States after March 1985.

– **Resolution No. 24:** Rate of Exchange Differentials (IICA/CE/Res.24(IV-0/84)).

The necessary corrective accounting procedures are being adopted, to avoid, inasmuch as possible, losses due to exchange rate differentials. These procedures have been included in the Proposed Financial Rules of the Institute, and a report has been prepared for the Committee with respect thereto.

– **Resolution No. 25:** Doubtful Accounts Due (IICA/CE/Res.25 (IV-0/84)).

In compliance with the provisions of this Resolution, a document will be submitted with a detailed explanation of the status of these accounts.

– **Resolution No. 26:** Study of Funds Established in Resolutions by the Board of Directors of the Inter-American Institute of Agricultural Sciences and Still in Force (IICA/CE/Res.26(IV-0/84)).

The Director General is submitting to this Executive Committee a document which sets forth an analysis on the need for and operations of the revolving funds, together with the respective recommendations applicable in each case.

– **Resolution No. 27:** Pension for IICA Director Emeritus Dr. Ralph H. Allee (IICA/CE/Res.27(IV-0/84)).

On the basis of the formula used to determine pension coverage for Dr. Armando Samper, calculations were made on the pension coverage for Dr. Allee; a report on this matter is being submitted to this Executive Committee.

– **Resolution No. 28:** Implementation of Staff Rules (IICA/CE/Res.28(IV-0/84)).

In compliance with the request of the Executive Committee, the Director General issued the Executive Orders implementing the Staff Rules on a trial basis. A new document was prepared, containing all precepts which do not imply new rights or benefits for staff member other than those granted to them in the Rules of Procedure of the General Directorate, and which do not have budgetary implications. The document contains the Director General's comments to the Executive Committee on the implementation of the Proposed Staff Rules.

– **Resolution No. 29:** Standards for IICA Personnel Classification and Classification of Positions (IICA/CE/Res.29(IV-0/84)).

In accordance with the tasks entrusted to him, the Director General is submitting a document to this Committee which describes the outcome of the Institute-wide post revision and the financial implications of the proposed classification changes.

– **Resolution No. 30:** Approval **ad referendum** of the Remuneration System (IICA/CE/Res.30(IV-0/84)).

Pursuant to the authorization granted by the Executive Committee, the Director General applied the System for the Determination of Remuneration for IICA Personnel in the formulation of the 1986-1987 Program-Budget. It must also be pointed out that a system for evaluating job performance in accordance with the new Remuneration System is being prepared with the collaboration of IICA personnel.

– **Resolution No. 31:** Definition of Positions of Trust Under the Director General as Referred to in Article 31 of the Rules of Procedure of the General Directorate (IICA/CE/Res.31(IV-0/84)).

The analysis conducted by the Director General on the Concept of Trust Personnel will be submitted to the Executive Committee in a specific document.

- **Resolutions Nos. 32 and 33:** Study to Grant Emeritus Status to Mr. Julio A. Ringuelet and Ms. Maria Dolores Malugani (IICA/CE/Res.32(IV-0/84) and IICA/CE/Res.33(IV-0/84)).

  Regarding these resolutions, the Director General will submit two draft resolutions, stating the rationale for granting Emeritus status to the persons indicated above.

- **Resolutions No. 34:** Inclusion of the Report on Extra-quota Agreements and Contracts in the Annual Report (IICA/CE/Res. 34(IV-0/84)).

  The 1984 Annual Report includes a list of all the information requested on extra-quota agreements and contracts signed with Member States, Agencies, Governments, and other entities.

- **Resolution No. 35:** Report on Financial Statements of the Tropical Agriculture Research and Training Centre (CATIE) (IICA/CE/Res.35(IV-0/84)).

  In compliance with this Resolution, the Director General must submit the External Auditors' Reports on CATIE's financial statements along with those for IICA.

- **Resolution No. 36:** New Contract on the Tropical Agriculture Research and Training Center (CATIE) IICA/CE/Res.36(IV-0/84)).

  The contract went into effect in June of 1983.

b) Progress made in implementing the resolutions issued by the Inter-American Board of Agriculture at its Second Regular Meeting (October 1983).

- **Resolution IICA/JIA/Res.25(II-0/83):** Inclusion of the Commonwealth of Dominica and Saint Lucia on the Schedule of the Executive Committee.

Inclusion of the Commonweath of Dominica and Saint Lucia on the schedule of the Executive Committee was formally notified to the Member States by the Director General, in a letter addressed to the pertinent governmental authorities (January 11, 1984).

– **Resolution IICA/JIA/Res.26(II-0/83):** Cooperative Agricultural Research Program for the Southern Cone.

The signing of a new agreement with the IDB on August 10, 1984 has assured the continuity of the program and the consolidation of its objectives. IICA will be the program's administrative agency, and contribute the funds approved by the Board. The program's steering committee was established on August 29, 1984.

– **Resolution IICA/JIA/Res.27(II-0/83):** Study of the Possibility of Transferring the Pan American Foot and Mouth Disease Center from PAHO to IICA.

IICA's Director General informed PAHO's Director General of the content of the resolution. A special agreement was drawn up proposing the establishment of appropriate means of coordination and cooperative mechanisms required by the institutions to develop additional joint activities in animal health through the Center. The document of this special agreement is being studied by both institutions.

– **Resolution IICA/JIA/Res.28(II-0/83):** Actions of the General Secretariat of the OAS in the Areas of Agriculture and Rural Development.

The Director General of IICA made this resolution known to the General Secretariat of the OAS. Letters were sent to the Ministries of Agriculture of the Member States to ensure continued support for agricultural and rural development programs in the hemisphere.

– **Resolution IICA/JIA/Res.29(II-0/83):** Uniform Reporting System on all Agreements and Contracts on Extra-Quota Projects.

In accordance with this resolution, the Director General is to use a uniform system for reporting all information relative to

agreements and contracts for extra-quota projects signed with Member States, agencies, and other entities.

– **Resolution IICA/JIA/Res.30(II-0/83):** Level and Use of Overhead.

A minimum of eight percent is being charged for indirect administrative and technical costs (CATIs). The resulting sum is included in the project budget. Indirect technical and administrative costs are being distributed whenever possible. Indirect costs have not been charged on donations for IICA's institutional strengthening. Modifications concerning CATIs are contained in the Proposed Financial Rules. A complete report on this matter should be available for the Third Regular Meeting of the Board.

– **Resolution IICA/JIA/Res.31(II-0/83):** Hemispheric Food Security Project.

Actions continued with the countries so that, in keeping with the experience gained in those countries having reached specific agreements, and as a result of technical cooperation with other regional and international agencies, a diagnostic methodology and cooperation mechanisms specific to IICA may be refined in such a way that this experience can serve other nations in the Inter-American System.

During 1985, work will focus on acquiring the experience required to develop concrete cases to establish and operate one or two prototype national project systems which will be submitted for the consideration of international financial organizations.

The Hemispheric Food Security Project is designed to complement the efforts of each of the Member States, using the mechanisms for international technical cooperation, within the framework of a flexible and coherent scheme, which will influence key aspects of food security.

– **Resolution IICA/JIA/Res.32(II-0/83):** Hemispheric Numerical Information System for Agricultural Development.

IICA initiated a process of reaching agreement with the member countries to develop an information system for agricultural

development, in accordance with the guidelines set forth in the Hemispheric Numerical Information System. Considering prevailing budget limitations, the Director General allocated the available resources and initiated the project, headquartered in CIDIA, *Costa Rica.*

IICA's General Directorate established contacts and negotiated with member countries and with funding sources to procure resources for the continuation of the project as of 1985. Partial funding is available for some of the countries (IDRC).

The following is an account of some of the actions taken within the Project, emphasizing those which are most closely related to the development of said project and the services it may offer.

Development of Multinational Subsystems and National Systems

Collaboration was provided in the presentation and promotion of the project "A Hemispheric Information System on Animal and Plant Pests and Diseases" (Animal Health and Plant Protection). The preliminary version was sent to all the countries for their information and suggestions, as well as a questionnaire on resources, needs and desire to participate.

Support was provided in conjunction with the Directorate of the Marketing and Agroindustry Program for the preparation of the project "Market Information for the Caribbean Basin," to support the exportation of agricultural products from that region to the *United States.*

A project entitled "Agricultural Information Systems for the CORECA Countries" was prepared. This project is already in operation, and this year the subsystem of information on prices and markets began to function, in addition to the socio-economic and production information which is available from the data bases in CIDIA.

A project profile for an "Agricultural Statistics System for *Venezuela"* was also prepared.

A diagnosis was made of the system for agricultural statistics in *Argentina* and a project profile for the development of the system was prepared.

Operation of the System

At the request of the Food Security Project, a study was conducted based on information from the data base at CIDIA. The study focused on the production and foreign trade of basic crops and livestock products for three typical Latin American countries, including the United States, for purposes of comparison. The pertinent report contains the regression curves for each variable and country, with comments about their implications, and then makes a global analysis and presents the respective conclusions.

Computer reports were distributed to Office Directors and Area Directors on the data contained in the files of greatest interest. In addition, a publication was distributed which describes existing files and another which explains how to request services related to the use of said data bases.

Specific requests for information and data processing have been received from some IICA units and these requests have been followed up on.

The Second Regular Meeting of the Inter-American Board of Agriculture was made possible thanks to the national support of the Jamaican authorities. The Director General during his official visit to the Honourable Edward P.G. Seaga, P.C., Prime Minister. (Kingston, October 1983).

The exchange of price and market information between the countries of CORECA has been initiated. This network will be linked with that of JUNAC, whose managers showed interest in said linkup. Accordingly, a network covering 12 countries was established. Based on negotiations initiated with ALADI, the network may possibly be expanded to include more countries and adapted to support transactions of agricultural products among the countries.

Development of Data Bases

During 1984 the data bases from AID and USDA were updated and expanded. Also available are FAO's magnetic files on Agricultural Production, Foreign Trade of Agricultural Products and Use of Machinery and Fertilizers. FAO's files have been converted to the SAS format to facilitate handling and to make then uniform with the format of existing files.

To facilitate data retrieval, computer programs, based on SAS macro-instructions, which form an Automatic Report Generator, are available. This will save programming time in answering standard report requests. The collaboration of technicians from AID-Washington was invaluable.

An interphase has been installed which will permit the transfer of files in the IBM 4331 to a microcomputer which will then process the data using its programs. This type of transmission will permit the countries to have subfiles with information of interest to the country.

- **Resolution IICA/JIA/Res.33(II-0/83):** Program-Budget 1984/1985.

  The Director General's Financial Report for the next Regular Meeting of the Committee and the next Regular Meeting of the Board will provide information on the Institute's financial status and expenditures as per the approved budget for the 1984-1985 biennium.

- **Resolution IICA/JIA/Res.34(II-0/83):** Quota Scale

  The Director General has made major efforts to collect quotas on time, in accordance with the Quota Scale approved by the Board and duly reported to the member countries.

The line of credit remains unused to date.

– **Resolution IICA/JIA/Res.35(II-0/83):** Contracts, Agreements, Contributions and Grants.

In accordance with the stipulations of Resolution IICA/JIA/Res. 29(II-0/83), all information pertaining to contracts, agreements, contributions and grants is contained in document IICA/CE/Doc.95. The Executive Committee was informed of all project negotiations exceeding US$ 250 000 annually.

– **Resolution IICA/JIA/Res.36(II-0/83):** Modifications to the Rules of Procedure of the Inter-American Board of Agriculture, the Executive Committee and the General Directorate of the Institute.

In response to the Board's mandate regarding the Rules of Procedure, the Director General, basing himself on the modified text, reviewed the translations into the Institute's other official languages. The new text of the Rules of Procedure of the Inter-American Board of Agriculture, the Executive Committee and the General Directorate was published and distributed. It includes all the modifications of form and of substance that had been approved by the Board. The new publication, No. 22 rev., is a part of IICA's Official Documents Series and was released in August 1984.

– **Resolution IICA/JIA/Res.37(II-0/83):** Proposed Staff Rules.

The Director General studied the Proposed Staff Rules presented to the Board in 1983, and taking into consideration the observation registered by the Member States and the Staff Association, prepared document IICA/CE/Doc.89 for study by the Executive Committee. The revised proposal has been given to the Staff Association for pertinent comments.

– **Resolution IICA/JIA/Res.38(II-0/83):** Proposed Financial Regulations.

The Director General revised the Proposed Financial Regulations presented to the Board in 1983, and taking into consideration the comments and observations of the member countries, prepared document IICA/CE/Doc.88, for study by the Committee.

— **Resolution IICA/JIA/Res.39(II-0/83):** Criteria for the Establishment of New IICA Programs.

Criteria approved in this resolution have been made available to the Institute's National Offices and administrative units as guidelines for determining the priority of new program proposals in IICA.

— **Resolution IICA/JIA/Res.40(II-0/83):** Regulations on the Pension of Former Director General of IICA, Mr. Armando Samper.

In accordance with the stipulations of this resolution, adjustments to the pension of ex-Director General Mr. Armando Samper were made retroactive to February 16, 1981.

— **Resolution IICA/JIA/Res.41(II-0/83):** Place and Date of the Next Regular Meeting of the Inter-American Board of Agriculture.

Steps have been taken with the *Uruguayan* Government to sign the IICA/Government of *Uruguay* Agreement to hold the Third Regular Meeting of the Board in 1985. The steps taken produced positive results and the Government of *Uruguay* has offered its country as the site of the meeting scheduled for October 1985.

— **Resolution IICA/JIA/Res.42(II-0/83):** Evaluation Seminar on the Conclusion of the United Nations Decade for Women in 1985.

IICA supported the Inter-American Seminar for the Evaluation of the Decade for Women, held in Cordoba, *Argentina* in July of 1984. IICA support during the organizational phase took place at the country level, with the Inter-American Commission of Women, and case studies were prepared by IICA in the following countries: *Honduras, Colombia, Dominican Republic, Brazil,* etc. A group of IICA specialists participated at the meeting by presenting the case studies mentioned above.

— **Resolution IICA/JIA/Res.43(II-0/83):** Institutionalization of the Inter-American Agricultural Information System-AGRINTER.

This resolution solicited suggestions from the countries to help identify the institutions in the countries which could act as regional coordinating center for the AGRINTER System. Fourteen countries replied as of 1984.

CIDIA is now in charge of the Executive Secretariat of the Technical Committee, and steps have been taken with *Brazil* to establish the Executive Secretariat in an organization of its federal system, linked to the Ministry of Agriculture (CENAGRI). The delegates of *Argentina, Brazil, Chile, Trinidad and Tobago* and IICA formed a Commission which will develop a document of formal affiliation to AGRINTER and draft rules for the system.

- **Resolutions IICA/JIA/Res.44-45-46-47-48(II-0/83):** Emeritus Status for Personnel.

  In ceremonies specially held for this purpose, the Director General formally announced that the following persons had been granted Emeritus Status, as per the approval of the JIA, and awarded the respective diplomas thereto:

  Dr. Ernesto H. Cásseres, (December 2, 1983, Santiago, *Chile*).
  Mr. Don L. Shurtleff, (December 16, 1983, San Jose, *Costa Rica*).
  Mr. Alejandro Mac Lean (December 5, 1983, Montevideo, *Uruguay*).
  Dr. Humberto Rosado, (April 27, 1984, *Mexico*).
  Dr. Malcolm H. MacDonald, (November 22, 1984, *Jamaica*).

- **Resolution IICA/JIA/Res.49(II-0/83):** Contracts and Agreements in Which the Inter-American Institute for Cooperation on Agriculture Would Provide Administrative, Technical and Financial Contributions.

  IICA attempted to arrange for the greatest possible technical cooperation for project development with IICA funding, during negotiations with national and international institutions and organizations. All projects for which IICA undertakes to contribute in excess of US$ 250 000 have been previously approved by the Executive Committee.

- **Resolution IICA/JIA/Res.50(II-0/83):** Designation of External Auditors.

The Director General notified the firm Peat Marwick Mitchell & Co. that it had been designated as the official auditor of IICA for the 1984-1985 biennium. Said firm accepted its designation and is now providing auditing services for the Institute.

– **Resolution IICA/JIA/Res.51(II-0/83)**: System for the Determination of Remuneration and Personnel Classification Standards.

In accordance with this resolution, the Director General presented to the Executive Committee documents IICA/CE/Doc. 90 and 92.

– **Resolution IICA/JIA/Res.52(II-0/83)**: Harmonization of Pesticide Registration and Labelling.

The GIFAP-NACA group donated US$ 10 000 to IICA to follow up on harmonization actions in the countries. The Technical Committee of the Southern Area met in Brasilia, *Brazil,* in March 1984, at which time the Directors for Plant Protection agreed on the harmonization of the registration and labelling of pesticides, setting August 1985 as the target date. In the Andean Area, only two countries, *Venezuela* and *Bolivia,* have not yet officially implemented harmonization.

In the Central Area, a meeting of the Technical Committee of OIRSA, held in *Honduras,* in December 1983, suggested that the member countries implement the recommendations of the meeting on harmonization which took place in *Costa Rica* in April 1983.

In the Caribbean Area, the issue will be decided at the next meeting of the Regional Technical Committee.

– **Resolution IICA/JIA/Res.53(II-0/83)**: Reformulation of the IICA-Tropics Project.

The Second Meeting of Foreign Ministers of the Amazon Cooperation Treaty took place in Cali, *Colombia,* on December 7-8, 1983. IICA was invited to attend as an Observer. During the First Plenary Session, at the invitation of the chair, IICA's delegate delivered a brief presentation on the IICA-Tropics Project and on IICA's desire to cooperate with the Treaty through the

actions for said project. The countries took note of the offer for technical cooperation, and this was duly recorded in the minutes.

During the IICA-Tropics Project Meeting, which took place in Brasilia, *Brazil,* from July 16 to 18, 1984, the delegates of the participating countries were informed of Resolution No. 53 and of the existing relationship and cooperation between the IICA-Tropics Project and the Amazon Cooperation Treaty.

— **Resolution IICA/JIA/Res.54(II-0/83):** Cooperation Between IICA and the Latin American and Caribbean Center for Youth (CLACJ).

A General Agreement for Technical Cooperation was signed with this Center in the following areas: reciprocal exchange of information and documentation on Rural Youth Programs, and research, promotion, design and approval of methodologies for the promotion, training and organization of rural youth for the purpose of education, production and service.

- **Resolution IICA/JIA/Res.55(II-0/83):** Support for the Simon Bolivar Fund.

The Director General requested the member countries to provide resources for continuing the Fund. However, these resources have not yet been made available. IICA sought additional funding to continue implementing those country-level projects of the Simon Bolivar Fund whose term had not yet expired. Consequently, Fund projects are being implemented in *Guatemala, Ecuador, Uruguay, Paraguay, Peru* and *El Salvador.*

IICA also began negotiations with the Ibero-American Cooperative Institute (ICI) of *Spain,* and with the Commission on the Five Hundred Year Anniversary of the Discovery of America, to create the Five Hundred Year Anniversary Fund with goals similar to those of the Simon Bolivar Fund. Negotiations between IICA, ICI, the Commission and other *Spanish* government agencies are still underway.

IICA set up an in-house task force to conduct a study on the possible organization of a Special Agricultural Development

Fund, financed by voluntary contributions from the Member States and other sources.

— **Resolutions IICA/JIA/Res.56-57-58-59(II-0/83):** Agricultural Medals and other Inter-American Awards.

During ceremonies specially held for this purpose, the Director General formally announced and awarded:

— The 1982 Inter-American Agricultural Medal to Dr. Bruno Mazzani (*Venezuela*) (10/11/83), Caracas).

— The 1983 Inter-American Agricultural Medal to Dr. José Emilio G. Araujo (*Brazil*) (4/4/84 Brasilia).

— The 1982 Inter-American Agricultural Development Award to Dr. Víctor Giménez Landínez (*Venezuela*) (10/11/83 Caracas), and the 1983 Agricultural Development Award to Mr. Roberto Mario Bocchetto (*Argentina*) (29/3/84 Buenos Aires).

— The 1982 Inter-American Award for the Participation of Women in Rural Development to Mrs. Ana Armand Ugon de Tron (*Uruguay*) (5/12/83 Montevideo).

— The 1983 Inter-American Award for the Participation of Women in Rural Development to Dr. Ana Sylvia Reynoso de Abud (*Dominican Republic*) (13/2/84 Santo Domingo).

— The 1982 Inter-American Award for Young Professionals to the following Agricultural Engineers:

René Salgado Flores (*El Salvador*) Central Area (13/12/83 San Salvador).
Alberto Ramos Balza (*Venezuela*) Andean Area (10/11/83 Caracas).
Gabriel Antonio Bascur (*Chile*) Southern Area (2/12/83 Santiago).

— **Resolution IICA/JIA/Res.60(II-0/83):** Vote of Thanks to the Government and People of Jamaica.

IICA's Director General delivered a copy of Resolution IICA/JIA/Res.60(II-0/83) to the *Jamaican* authorities in which

the Inter-American Board of Agriculture expressed its gratitude to the Government and People of *Jamaica* for their support during the Second Regular Meeting of the Board, which took place in that country.

c) Progress made in the implementation of the Ninth Inter-American Conference on Agriculture.

As stipulated in Article 128 of the Charter of the above-mentioned organization, the Inter-American Conference on Agriculture is a specialized conference which meets to address special technical matters in its sphere of competence and develop different aspects of inter-American cooperation.

The following is a list of the eight Inter-American Conferences held to date:

I	September, 1930	*United States of America*
II	June, 1942	*Mexico*
III	August, 1945	*Venezuela*
IV	December, 1950	*Uruguay*
V	August, 1960	*Mexico*
VI	June, 1971	*Peru*
VII	June, 1977	*Honduras*
VIII	April, 1981	*Chile*

Recommendations Nos. 7 and 20 of the Seventh and Eighth Inter-American Conferences on Agriculture, respectively, highlighted the convenience of holding the Conferences every four years, together with the Regular Meeting.

Both the Board of Directors and the Inter-American Board of Agriculture have made concrete motions before these Conferences, through the Director General, and have provided the support necessary required to hold these conferences.

The Second Regular Meeting of the Inter-American Board of Agriculture, held in *Jamaica,* in 1983, did not issue a resolution to this effect. Consequently, the budget approved for the 1984-1985 biennium does not make provisions for the Ninth Inter-American Conference on Agriculture.

The Director General submitted a detailed report on the Inter-American Conferences on Agriculture (Document IICA/CE/Doc. 98(84)), which was discussed at length by the Executive Committee at its Fourth Regular Meeting in December of 1984. As a result of this analysis, Resolution IICA/CE/Res.18(IV-0/84) was adopted, recommending that the Ninth Inter-American Conference on Agriculture be held along with the Third Regular Meeting of the Inter-American Board of Agriculture in 1987.

The General Assembly of the OAS has recommended most emphatically that these Conferences be held on such a date so as to ensure that adequate attention is given to its recommendations by the pertinent bodies, such as the CIES and the General Assembly, both of which meet once a year in October and November respectively.

The recommendations issuing from this Conference could be subsequently studied by the Meeting of the Inter-American Social and Economic Council and other forums of the OAS. Similarly, the Conference formulates recommendations to IICA which are favorably received.

The first six meetings of the Inter-American Conference on Agriculture were entirely financed by the OAS. IICA collaborated extensively in the Seventh Conference, and totally financed and organized the Eighth when the OAS stated that it lacked the funds required to sponsor said event.

d. Progress made in the implementation of the Medium-Term Plan

During 1984, it was satisfying to note the Institute's progress in light of the short period of time since the new Convention went into effect and the new governing bodies (the Inter-American Board of Agriculture and the Executive Committee) initiated their activities.

This year, which marked the mid-way point for the 1983-1987 Medium-Term Plan, IICA implemented new administrative instruments to guide its course, and while undergoing a profound transformation and renewal process, has still managed to handle in excess of US$ 47 million.

It has also been extremely gratifying to note the interest with which the Member States supported the process of documents central to the Institute's internal and external actions, especially in the field of human resources (which constitute the basis of its work), financial resources, its *modus operandi,* technical and accounting controls, and actions for the development, formulation, implementation, follow-up and evaluation of its projects.

The following is a list of major achievements:

d.1. Guidelines for technical action

IICA has been implementing actions agreed upon with national authorities in order to achieve the objectives of cooperation with the Member States for the efficient development of agriculture and improved standards of living for the rural population.

The Member States actively engage in the process to identify problems, establish priorities, identify projects for technical

The Fourth Regular Meeting of IICA's Executive Committee analyzed several documents concerning institutional action and issued 36 Resolutions (Central Office, December 1984).

cooperation and implement IICA's actions in each country or in groups of countries. In order to accomplish these goals, the General Directorate established a permanent dialogue with authorities in the countries to define national projects, or promoted meetings and international forums to discuss problems of common interest to determine joint actions to be taken through multinational projects.

The use of this procedure for defining technical coopertion actions for the 1986-1987 period has enabled the implementation of a strategy to facilitate the process of reaching agreement on actions to be taken. This has resulted in an increased amount of resources for each project, which will afford more efficient solutions to high-priority problems in the countries. The outcome of this process is reflected in the wide range of actions contained in this **1984 Annual Report**, and in the 1986-1987 Proposed Program Budget. These actions also reflect an effort to concentrate projects in two or three subject areas under each Program, within the wider framework of problem areas defined by the Medium-Term Plan for each one of the Programs.

This **1984 Annual Report** clearly details and quantifies the significant results obtained in the Programs' different projects (Chap. III). These highly positive results, recognized by the national authorities, are the end result of agreeing upon and concentrating actions that are part of a permanent process to improve the methods and procedures to prepare, implement, follow up on, supervise and evaluate projects.

It is worth noting that in the reported results, which are the product of agreement on technical actions, the most important of the instruments most used in technical cooperation were, in descending order: training, technical support, reciprocal technical cooperation, technical-scientific intervention and direct action.

The fact that all the projects entail training is proof of the importance of this component and of the need for national institutions to train their technicians. Several different methods have been employed, especially in-service training, short courses, workshops, seminars and visits to other projects or countries. This reflects the need to strengthen this

area with effective strategies that will enable the countries and the pertinent national agencies to train their technical personnel, and thus acquire a permanent, self-sufficient technical capacity to bring about agricultural development and rural well-being.

d.2. Guidelines for administrative action

In order to comply with the technical standards of the Institute, and to carry out that which is stipulated in the Rules of Procedure of the General Directorate, actions were taken to transfer some personnel and hire other when the need arose. A total of 13 experts were appointed to fill vacant posts and 17 International Professionals were transferred to different duty stations. The transfer of personnel in 1984 was less than in the previous year, and was more in keeping with the normal pattern required by the Institute.

Likewise:

a. Actions in the Area Offices were consolidated with respect to supervision and coordination, and Program Directors strengthened actions to ensure the technical quality of IICA's work. For a number of reasons, it was not possible to fill the openings for Program Director; these actions were nonetheless carried out by the Institute's high-level personnel.

b. Several meetings related to institutional training activities were held with the National Office Directors, by geographic area, in order to analyze and better understand the tasks of the Institute's different units, operating systems, rules and procedures for finances and personnel. Prior to these meetings there was a coordinated effort among the different units of the Central Office to prepare the material required for the development of said training activities.

   A member from each Office of the Assistant Deputy Directors General and from the Directorates of Human Resources and Finances and Management was present at these meetings.

The results obtained are reflected in the improved understanding among the different units and the increased efficiency of operations.

c. The guidelines for the preparation of profiles and projects were reviewed on the basis of the **Operating Systems** Document. This document was also used as a guide to describe the functions of Area Directors, Programs, Offices and Project Heads. The Uniform Reporting System was updated by aptly defining each level of responsibility and eliminating the duplication of information. This effort to revise and update documents resulted in a greater degree of coherence and uniformity among same. It also facilitated attainment of the Institute's objectives, which are oriented towards producing significant impacts and identifiable products, in accordance with the Institute's strategy.

d. The Supervision and Follow-up System was substantially improved in its application at the Institute's different levels. Since it relied on better guidelines, it helped to strengthen relations between the Central Office and the decentralized units, such as National Offices. Visits by officials from the Central Office and Area Directors to specific countries to help solve problems and support the offices' activities in these countries had a positive and timely effect during the year.

d.3 Guidelines for financial action

The services of two consultants specialized in financial and personnel matters were continued in 1984. One was concerned with finance, the other with matters related to personnel. The two worked on the preparation of budgetary, financial, accounting and personnel regulations, respectively. The documents were submitted to the Inter-American Board of Agriculture at its Second Regular Meeting. The Board resolved that, in light of the importance of these documents and the short time available for their analysis, the countries should be given a prudent time frame in which to review them and formulate pertinent observations. The Board also requested that the Director General submit revised versions of these documents to the Executive Committee, in order to

analyze them and make pertinent recommendations for submission to the Inter-American Board of Agriculture at its Third Regular Meeting in 1985.

The Institute's systems for compiling, recording, distributing and controlling information on IICA's financial resources and assets are not keeping pace with the growth of IICA's operations. Consequently, the General Directorate found it necessary to modernize and automate its accounting and financial systems, which would allow for: i) a mechanism of timely, adapted, and exact information; ii) continuous, fluid communication with the financial and technical support units; iii) the installed capacity to provide information to the countries and cooperating and donor institutions.

The most significant actions in this area implemented during 1984 were: i) the establishment of a new accounting code structure, to help plan the management of accounting information, in historical, programming and geographic terms, and according to objects of expenditure. The code's components work to identify a specific fund or trust fund, and to generate the management and production of an accounting system for funds and previous accounting of liabilities as a requisite for effecting an expenditure; ii) implementation of a new system for recording budgetary operations parallel to the traditional system and the testing of validation programs; iii) the establishment of guidelines to implement programs required for microcomputers in the Offices; 70 administrative questionnaires were designed to compile information according to the needs of the new system; iv) information on the new system was provided to all the Offices; v) training was provided to personnel in the Accounting Division on the utilization of accounts and forms for the new accounting system; at a later date, personnel in the Offices in the countries will also receive similar training; vi) the development of the Proposed Program-Budget was initiated within the automation process; vii) work was begun on the reorganization of the Accounting Division and post and job descriptions were updated in accordance with the new system; viii) work was initiated on the biyearly production of lists and reports on fixed assets of all the financial resources managed, both for the Central Office and the Offices in the Member States; ix) work was also begun on the preparation of a manual on Financial, Account-

ing and Budgetary Procedures; and x) steps were completed to purchase and install microcomputer equipment, which will be used to develop a communications network between the Central Office, the General Directorate and the Offices in the Member Countries.

d.4 Guidelines for action in external affairs

Major progress was made in this area during the course of 1984. To begin with, the corresponding 'Deputy Directorate was restructured and a new Assistant Deputy Director General was appointed. The Directorate for External Resources was transferred to Washington, D.C. to enable specialized personnel to work closely with technical and financial cooperation agencies headquartered in that city. A Liaison Unit was developed for the Donor and Permanent Observer Countries, and studies were conducted on the different financial institutions of relevance to IICA.

Ties with the Observer Countries were consolidated through concrete actions for cooperation, especially with *Spain, France, Holland* and EEC. An **ad hoc** mechanism for bilateral consultation was also established with the Permanent Mission of the *United States* to the OAS, the Department of Agriculture and the Institute.

Serious efforts were also launched to support and coordinate actions with international centers and agencies of the Inter-American and world system, as well as with the individual Member States, through the use of agreements, contracts, and joint operating agreements.

Chapter IV of this Report contains a table enumerating the actions in this field. A total of 150 projects were implemented with external resources for a sum of approximately US$ 17 million, and 76 contracts and agreements were signed.

d.5 Guidelines for action in human resources

Great strides were taken concerning human resources to place technical specialists in duty stations requiring their skills and expertise. The procedures for selecting and recruiting candi-

dates for technical and administrative posts were greatly improved upon during this year, and the data base in this important area was expanded.

The implementation of new instruments and techniques for evaluating personnel will undoubtedly prove fruitful in the short term. This, in addition to the progress made in the system for personnel incentives, such as the program for in-service training, should produce the desired results.

On a similar note, the implementation in the near future of the systems for the classification of personnel and positions, as well as remuneration, will make the possibility of a professional career at IICA attractive to personnel in the Institute.

Finally, in the area of Personnel Training and Development, financial assistance was provided to upgrade the skills of the Institute's personnel and thus improve their performance at the Institute. Internally, several courses on word processing were offered for personnel providing secretarial services.

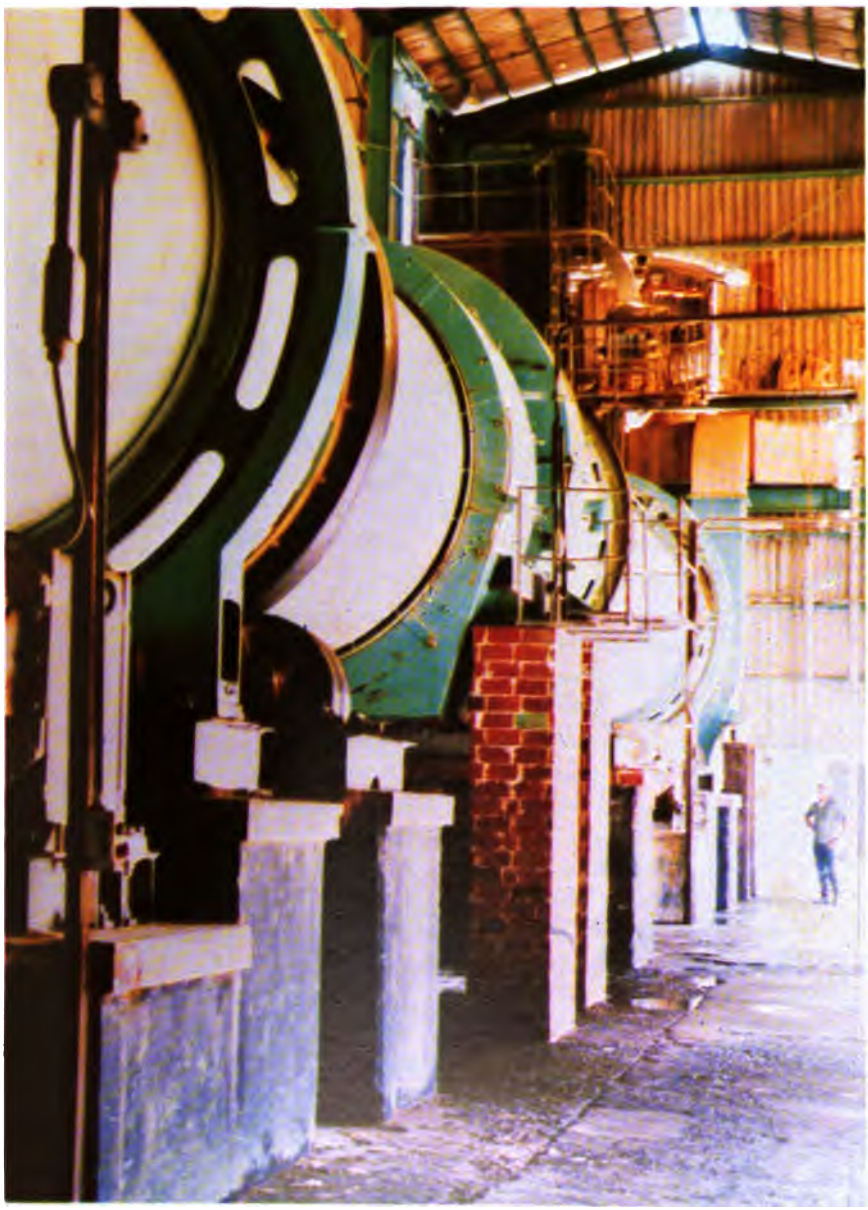
chapter III

Technical Cooperation Services

a. Programs

b. Specialized Centers

1. CEPI 2. CIDIA 3. CATIE



program 1

Formal Agricultural Education

Introduction

A brief study of the countries requests for support and of the projects underway for the 1984-1985 period reveals a widespread need for trained human resources and a system of formal agricultural education that is presently unable to satisfy the requirements for rural and sectoral development. In spite of major budgetary commitments made by the countries in the region to improve formal education, substantial qualitative and quantitative problems persist. Once identified and classified by order of priority, these problems could be solved by projects and activities within a larger framework oriented towards all levels of formal, basic, and non-formal agricultural education.

Part of this overall picture is the system of agricultural education at all levels, to prepare the people needed for solving the problems of agricultural development and to increase the levels of production

and productivity. This system must be flexible and dynamic, and have foresight and the ability to work with several disciplines in different sectors, so as to adapt to a changing world and face the crisis confronting educational systems and institutions.

IICA is fully aware of the fact that agricultural education today forms a broader subsystem than the loosely joined network of grade schools, secondary schools and universities that traditionally monopolized the educational system. New forms of education are emerging that enable people the world over to achieve more than was possible under more conventional classroom systems.

Without ignoring the importance of formal agricultural education, Program I concentrated its actions in the following manner:

a. Graduate studies
b. Professional education
c. Training of mid-level technicians
d. Basic education
e. Ongoing training

At the graduate level, the Program's actions attempt to generate and consolidate the educational process by producing highly trained researchers and teachers, and by strengthening actions to increase the technical capacity of local specialists.

The Program will work to support university training projects, improving the area of administration and organization of education, upgrading faculty and curriculum, providing training in specific areas, and coordinating exchange and cooperation programs with other university level institutions.

With mid-level educational projects, the Program proposes to analyse existing study programs, the relationship between learning and production projects, teaching and technical aspects, support for technical and academic units, institutional analysis, curriculum planning, systems to evaluate the learning and training process, teaching strategies, and the production of teaching materials and text books.

Program I will work at the level of basic education to design workable experimental models linking education and the working

world, will participate in group research integrating the school, education and community organizations and will promote rural education programming closely integrated with other economic and social groups.

The Program is considering short training courses for national personnel in the hope of improving conditions in the traditional agricultural subsector and is helping to optimize the use of available resources in order to improve the efficiency of livestock production units.

ACTION IN THE COUNTRIES

Area 1 — Central

In *Costa Rica,* the project "Integrated planning for farms in agricultural schools" carried out the tasks specified in the original program and concluded the final documents for planning five agricultural schools in Fortuna de Bagaces, Carrillo, Siquirres, San Juan del Sur and Talamanca. The project's fourth phase ended with the planning of these five farm schools, and thus met 78 percent of the total objectives.

When the studies were completed, approximately 75 percent of the planned farm schools received financial assistance for the total or partial implementation of productive activities recommended in the project. Twenty farm school directors and over seventy percent of the agronomy professors at farm schools were trained in the preparation and evaluation of agricultural projects. The Program was also responsible for preparing ten technical documents which were publicly presented to the Minister of Education, and later to the direct beneficiaries and other agricultural sector agencies.

In December of 1984, *Costa Rica's* Minister of Public Education and IICA's Director General signed a new agreement to complete farm planning in the country's 52 agricultural schools. The Program carried out a short-term action to develop production units so that creditworthy projects could be prepared for certain preselected agricultural schools. The project focused on multi-purpose cattle, forestry, and tomatoes. Efforts were concentrated on the San Mateo Farm School, where it proved feasible to develop a dairy cattle project and a pig farm.

Progress was made in a project in *Honduras* to provide technical support for the formulation and implementation of the development program for the National School of Agriculture in the Secretariat of Natural Resources (ENA-SRN). At the request of the Government of *Honduras,* IICA's Office contributed to the preparation of a national policy for agricultural education. The two activities carried out for this purpose were to help obtain funding for the ENA Program, and to assist in implementation by improving the curriculum and upgrading facilities.

A proposal was developed to create a National Council for Agricultural Education in order to address the ENA's need for funding, and when consulted on the matter, the Higher Council of Economic Planning (CONSUPLANE) approved the efforts to seek financial support. The following results were obtained from the implementation of the program:

a. The present research program was revised.

b. Training in teaching methods was provided to 31 teachers.

c. In-service training in educational evaluation was provided for an ENA instructor.

d. The number of visiting professors to ENA was increased.

e. Remodeling continued on the ENA campus with budgeted funds from the second sectoral program of the Agency for International Development (AID).

Program actions in the *Dominican Republic* worked to support middle and upper level formal agricultural education. However, most activities were postponed until 1985 due to factors beyond Program control. The country is very interested in education as a result of short-term training programs offered by IICA and CATIE.

Work was conducted in *Mexico* to promote relations with the Latin American Association for Higher Level Agricultural Education (ALEAS), in preparation for an upcoming hemispheric meeting scheduled for 1985. Various future training activities were fostered for young professionals in the field of teaching and research, in such specific areas as animal nutrition, genetics, plant pathology, etc.

Area 2 — Caribbean

Work in *Haiti* was based on the document "Proposed Curriculum for the Department of Agronomy and Veterinary Medicine (FAMV) in Damien, Republic of *Haiti,*" submitted to the government by IICA's National Office in 1977.

The proposal, which was updated in 1983, was used as a basis for requesting IICA's technical support to open a school of veterinary medicine.

In 1984, FAMV received assistance in completing its internal structure, and workable extension mechanisms were developed. Criteria were established to determine the participation of the private sector, the public sector and the university in the training of human resources, technology transfer and educational activities directly related to the agricultural sector. Technicians and specialists from all levels of the agricultural sector participated in several courses on fruit crops, floriculture and olericulture.

In *Jamaica, Haiti* and *Saint Lucia,* IICA established a series of contacts for developing educational support actions. Initial efforts to identify educational activities were made possible through contacts established with the Elim and Knockalva middle schools and the Passley Gardens high school. The development of a project profile was a clear indication of progress made in this respect, as was the preparation of a document entitled: "Proposal for completing the Dutch Project and expanding Knockalva to accommodate three hundred and sixty students," which was presented to the IICA Office in *Jamaica* by the Knockalva Agricultural School. This project profile is expected to be operational by 1985.

Area 3 — Andean

In *Bolivia,* five documents were written to determine minimum standards of study programs offered at the Agronomy Departments of the Cochabamba, Potosi and Beni Universities. Documents were developed for courses in science, technology, occupational skills, socio-economics, general electives and prerequisites. Two of the documents contained proposals for courses designed to organize and conduct classes and seminars through workshop training in specific areas and subareas.

In Haiti, courses conducted under Program I in fruticulture, floriculture and olericulture produced significant technical results for local participants.

The Program worked hand in hand with coordinators from the above-mentioned Agronomy Departments in structuring the area of integrated training. It prepared methodologies to evaluate the resources used by each one of these Departments and basic guidelines for a new academic system.

A final document is currently under development to determine the technical basis to be followed by the three Departments working on the project, and it is subject to approval by the deans and coordinators. The IICA project will support an interdisciplinary curriculum adapted to existing conditions in the country. Each Agronomy Department will have to develop the guidelines for the adaptation or adoption of the fundamental points it considers essential.

Activities in *Colombia* during 1984 continued at an ever-increasing rate and surpassed the achievements of earlier years. In total, it was revealing to note a forty percent increase in the number of activities implemented over the previous year. Figures indicate a total of 1 122 direct beneficiaries of the National Program for Agricultural Training (PNCA). During the course of the year 37 courses, workshops and seminars were conducted, as well as three conferences, two technical meetings, three consultancies, and two cooperative support activities. Nine books were published: one for the first time. Altogether, 56 activities were attributed to the PNCA.

Faith in the PNCA and in IICA's role in administration can be measured by the decision to extend operations for another four years (until 1988) and the degree of participation in the program's activities. Another important fact is that the Colombian Institute for Agrarian Reform (INCORA), supported by the World Bank, signed an agreement entrusting IICA with its national and international training programs to complement its regular yearly PNCA training program.

In *Peru* the project "Reinforcement of University Agricultural Education Institutions" identified needs for technical support to strengthen agricultural research at the National University of the Peruvian Amazon (UNAP) in Iquitos. A project (which UNAP considered a subproject) was developed to study existing land use systems in the Tamshiyacu Community of the Amazon River. These projects complement a study developed by another project entitled "Support for INIPA on communication among the UMARI production systems in Tamshiyacu." A second UNAP subproject was the preparation of genetic material to design agro-forest models, fulfilling some the goals of the regional research program on fruit trees native to the lowland jungle.

Students from UNAP actively participated in both projects and used the findings of their work as the basis for their graduate theses or to satisfy practicum requirements for agronomy courses. Under IICA's guidance, UNAP organized a seminar on the ecological management of the Amazon.

Finally, several areas were identified in which to support the Ucayali National University, and valuable contributions were made to begin preparations for the upcoming meeting of Deans of Agronomy Departments in *Peru's* Universities.

In *Venezuela,* the project "Strengthening Agricultural Extension, Research, Training and Scientific Dissemination at the Central University" signed an agreement to ensure a high academic level for agricultural extension and technical assistance, and to integrate them with the teaching and research conducted in the Department of Agronomy and Veterinary Science. The purpose is to reinforce existing ties between the departments, the rural environment, and the agricultural sector agencies. Work was conducted with the Agronomy Department of the University of Maracay to create a course on extension and technical assistance at the graduate level.

Project activities took the form of workshops, training programs in extension, preparation of documents, support for the development of courses on agricultural extension, classroom instruction, participation in grading student projects in the Agronomy Department, as well as an analysis of other graduate programs offered at the Central University of *Venezuela.*

Additional activities included the development of a basic proposal for a university extension project oriented toward the agricultural sector, and the possibility of a reciprocal training trip to *Costa Rica* to familiarize the coordinator with the structure of extension programs at the University of Costa Rica (UCR).

Finally, the Program supported the library of the University's Agronomy Department, and worked to organize and implement the National Seminar on Communications.

Area 4 – Southern

The project to implement a model linking school to community through *Chile's* agricultural schools was divided into three major components. The first, most important component worked to reformulate plans and programs and stressed teacher training programs and improvement of the school system's infrastructure. The Program successfully achieved its goals in the area of plans, programs and educational training, but was only partially successful in improving the system's infrastructure, since only the diagnostic and characterization phase of the plan was completed.

The second component was to procure support to develop and implement graduate level courses in rural development at the Uni-

versidad Austral in *Chile.* The established goals were satisfactorily met when IICA completed the program's initial phases on schedule, and a graduate course is slated to begin in 1985.

The third component, supporting the regional coordination of ALEAS, was successful in renewing the participation of schools of agriculture in *Paraguay, Uruguay* and *Argentina* as active members in the Association.

The project to strengthen the agricultural and forestry educational system in *Paraguay* was active in consulting services and training to produce teaching materials; consulting services and evaluation of learning techniques; improvement of methods for the administrative, financial and accounting organization of the Directorate for Agricultural and Forestry Education of the Ministry of Agriculture and Livestock (MAG), and of the system's schools; the training of technical instructors for the agricultural schools; and the administration and coordination of the scholarship program.

Given the nature of the project's objectives, the Program emphasized the need for integrated work concentrating on training activities, the focal point of all activities for institutional reinforcement. As a result, a plan of action was devised to integrate the above-mentioned consulting services in a single activity: to prepare human resources by training technical professional instructors and directors from the Agricultural and Forest Educational subsystem (DEAF), the farm schools and forestry schools.

The consultants engaged in this activity sought to obtain concrete results for the schools of the DEAF system. In general, the schools will work to establish guidelines for programming, implementing and evaluating the educational process, will develop teaching tools, perform curriculum planning and begin to evaluate learning and institutionalized training of technical instructors and teachers.

Workshops and short courses were held to put these concepts into operation. They were directed at all the teaching staff at the schools. Training held at the schools concentrated on curriculum planning, learning evaluation and teaching methods.

As a result, the planning of curricular units for each school was completed, and more reliable evaluation systems were designed.

The plan of action led to the organization of technical teaching units in each school, designed to provide the Directors with technical support in the areas of teaching, coordinating the efforts of organizers, production heads and counsellors.

The integration of the three consultancies, which initially were to have operated individually, produced very positive results. In addition, valuable materials were prepared for participants in the training program, and incentives were provided to continue the improvement thereof; so that teachers could optimize the planning, evaluation and methodology of their own courses.

In general, work was completed to establish a basic infrastructure and determine the general framework and standards for agricultural and forestry schools, as well as to enhance the institutional capacity of the agricultural and forestry education system. A short-term action was proposed with DEAF and other interested schools to maintain at least a minimum of activities for 1985.

In *Brazil,* the project for cooperation with the State of Amazonas for the implementation of the PDRI included education as one of its goals, through community education proposals, literacy and work programs, the development of preliminary teaching programs, and the implementation of an agricultural school calender in the municipalities of Manxaparu, Irandaba, Urucara, Barreirinha and Pgintins.

The Program worked with PRONASEC in Joao Bonito and the experimental zone of Valencia and developed a work program for the Agency for Technical Support and Rural Extension/Secretariat of Education/Foundation for Research in the State of Rio de Janeiro (EMATER/SEE/FAPERJ) and the Amazonas State Government. The work program established four priority areas: 1) the construction and implementation of integrated centers for public education and children's housing; 2) comparison of collective models and the systematization of development experience and rural education; 3) participation in joint research projects with small-scale producers in rural areas, and 4) a proposal for a system to evaluate educational practices in the State of Rio de Janeiro.

The project "Support for the State of Rio de Janeiro in the formulation of rural education policies" was geared toward training specialists to coordinate small production projects and to search for external funding for the following projects: 1) development stategies

Program I provided training for 1122 persons in PNCA, Colombia, through 56 different technical activities.

for small-scale farm producers; 2) collective models for systematization; 3) development of a model for educational evaluation in the state's rural schools, and 4) integrated public information centers and the technical support necessary to introduce them. Ongoing contact was made with representatives from IDB, the World Bank, Canada's International Development Research Center (IDRC), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Labor Organization (ILO), the Canadian Embassy, the Dutch Embassy and the International Council for Adult Education (ICAE).

A strategy was followed to organize and implement workshops, courses and seminars for personnel training. Documents and research projects were developed with emphasis on working in rural areas, as a means of attracting external funds. As part of this effort, eighty

specialists were trained, four projects and two documents were developed, and a book on integrated rural education was published.

The project to cooperate with the Secretariat of State of Pernambuco in its participatory evaluation program for rural education continued its efforts with the Secretariat for Education to implement a system of evaluating rural education programs. The project's strategy was for students to work jointly with specialists from the State Secretariats for Education, the municipalities, teachers and community members.

program II

Support of National Institutions for the Generation and Transfer of Agricultural Technology

Introduction

The structure of agricultural production in Latin America and the Caribbean is typically two-faceted. Commercial agriculture focuses primarily on export and industrial crops, while traditional agriculture, practiced by small- and medium-scale farmers, produces food crops using little modern technology.

Major technological problems include low yields due to pests, diseases and weeds, low fertility soils, poor management of water resources, and insufficient supplies of improved seeds. This, together with poor overall management at the farm level, further dramatizes the general picture of agricultural production in this region.

Most of the institutions for the generation and transfer of technology have gradually assumed parallel duties and organizational structures. This has occurred

despite the tremendous ecological and socio-economic heterogeneity of the countries of the region, with their concomitant diverse productive structures. As a result, the countries have been forced to rethink the operating mechanisms used by their agricultural research and extension institutions.

It is also important to note the various international centers that have appeared on the agricultural research scene in Latin America and the Caribbean. In one way or another, these centers have served as a catalyst for technology generation and, to a lesser extent, technology transfer to national agencies.

Country-level institutional constraints to solving the problem can be described as follows:

a. Agricultural research is a scientific activity, but agricultural decisions are made in a political context and condition all other actions. Strong, decisive, supportive government policies are essential for the development of a vigorous, effective research system. This is not necessarily occurring in the region.

b. The magnitude of technology research and transfer efforts is fundamentally an economic issue in which the countries can and must invest, depending on their political commitment. However, economic restrictions are becoming ever more visible in the region.

c. Agricultural research is not and cannot be an isolated effort. Quite the contrary, it is part of an interconnected process closely linked to other government and private sector actions. However, it is not always taken into account in national development plans.

d. The achievements of agricultural research are not always transferable from one country to another or even from one region to another in the same country. Instead, it is important to take note of agroecological, socio-economic and political restrictions that stand between researchers and farmers.

e. Financial resources which are both inadequate and unpredictable have a direct effect on any technology generation and transfer system, especially high productivity systems.

f. Physical infrastructure is often developed and maintained in such a way that it fails to respond to the true agroecological characteristics or economic potential of the individual country.

g. Research activities are not always channeled toward the country's true priorities on the basis of opportunities and problem areas.

h. Despite training efforts, a critical mass of well qualified researchers has not been developed or maintained.

i. Advantageous opportunities are often lost. In addition, the national and international scientific capabilities available in the region are often underused.

j. There is no guarantee that research findings will be made available to farmers, and the flow of information toward political sectors and other potential users, via agents of technology transfer, is even more unreliable.

These facts, very briefly described, suggest the need for national institutions to develop a capacity for analyzing various structural and operational formats. In this way, necessary adjustments or alterations can gradually be introduced to adapt the institutions to the many and changing conditions prevailing in each country.

Agricultural research and extension problems are extremely complex, and include consideration of such factors as scientific progress, the proliferation of problems, and growing needs to produce food and agricultural raw materials, together with experience acquired in technology generation and transfer. This complexity demands specific, well-developed managerial and administrative skills, and for this purpose, various types of efficient training methods must be made available. In addition, past experience already acquired throughout Latin America and the Caribbean and the rest of the world needs to be shared more intensively.

Most countries have fundamental documents containing national plans. These documents provide the framework within which agricultural sector plans are developed, and they include programs for technology generation and transfer for each sector. These three specific categories of documents are not always available in every country, but existing position papers generally contain enough details to situate the high priority position of technology generation and

transfer. Private institutions and universities may be conducting major projects which are not necessarily reflected in the basic documents. Therefore, the action of these institutions merits special attention.

Despite the ecological and socio-economic complexity of Latin America and the Caribbean, workable opportunities continually arise for regional cooperation. In addition, presently available region-wide mechanisms can be used if countries are classified by greater or lesser degree of similarity and geographic proximity.

ACTION IN THE COUNTRIES

In this context, IICA is carrying out exhaustive studies of the agricultural situation in each country in the field of technology generation and transfer. Its tools include documentation and personal contacts with the directors and operators of agricultural research and extension programs, together with field visits and working meetings. This has made it possible to compare real achievements with original plans and to obtain a better understanding of historical and institutional progress and of the work as a whole. It has facilitated the task of identifying potential areas in which the Institute can cooperate with the countries.

The region places a high priority on opportunities to formulate and carry out cooperative projects for technology generation and transfer. As a result, there are presently 33 projects underway in 20 countries of Latin America and the Caribbean, consisting of 135 activities.

It is essential for the selection of high-priority projects in the countries to match the requirements for cooperation that emerge during the agreement-reaching process with the countries. This must be done in consideration of the nature of the problem, its importance, and its potential for solution using available mechanisms. The most important issue is project funding.

Cooperative multinational or regional projects are characterized by the following traits:

a. Actions or concrete areas of mutual concern, to which participating countries attach a high priority, need to be identified.

b. An understanding is required of the different stages of technological and scientific progress in the countries, which make it possible to transmit information, know-how and materials in a system of communicating links, from the most developed to the least developed in any particular field, in a systematic and sustained fashion.

In 1984, Program II promoted the generation and transfer of technology through 135 activities within the framework of 33 projects in 20 countries of Latin America and the Caribbean.

c. When all or some of the participating countries lack sufficient or available resources, there is a possibility of seeking extra-regional scientific and financial sources of concrete support.

d. Agreement must be reached on a clearly defined cooperative program, specifying the responsibilities of each participant, to be formalized in project documents.

The cooperative structure as described above has proven to be highly satisfactory, and is in keeping with IICA's guidelines for action and basic purposes. An example is the Cooperative Program for Agricultural Research (IICA/IDB/PROCISUR), which is the most advanced IICA project presently underway. This format is considered a model which should continue to be used, at least until the end of the 1980s.

In light of all these factors, national institutions which qualify to receive cooperation may be either public or private in nature. It is important only that their tasks reflect national priorities, as occurs in this case.

The horizons for institutional cooperation have been expanding in the countries. As a result, selection has become a major challenge, and new sources of funding need to be sought. The many negotiations and procedures required before a project can be put into action have become more complex and lengthy.

Analysis of IICA's actions and other developments in technology generation and transfer reveals concrete, successful results. One example is the Institute's participation in the establishment and development of national research agencies and training technical staff in disciplines important for this field. The impact on agricultural development in the countries is undeniable.

ACTION IN THE COUNTRIES

Area 1 – Central

The Central Area saw action in five national projects and one short-term action in five countries, as well as a multinational project.

Technical support was provided in *Guatemala* in dairy production research, which is a high-priority area for the country and is only

recently receiving attention. IICA's support led to the establishment of a specialized unit in the Agricultural Science and Technology Institute (ICTA), attached to the General Office of Agricultural Service (DIGESEPE) of the Ministry of Agriculture. A new project was also launched as follow-up to earlier and successful efforts by the Simon Bolivar Fund to use simple technological regional production modules in high-priority areas.

In *Mexico,* support in training technical and scientific personnel from the National Agricultural Research Institute (INICA) led to the reformulation of the Model Training Program and the development of a new plan. It was therefore possible to establish a committee to govern the training of scientific personnel, both nationally and regionally, with special emphasis on the tropical region where scientific personnel is in short supply.

Program action in *Nicaragua* suffered the effects of situations beyond project control. As a result, progress in the humid tropical region was negligible, despite the high impact results that had been achieved in 1983 with the Simon Bolivar Fund. Nevertheless, valuable germplasm material of tropical species was introduced and successfully established. Several technical documents and guidelines were produced for tropical species of economic importance, and national staff training continued, although on a limited basis due to the transfer of trained staff to the country's other programs.

In *Panama,* the National Agricultural Extension Service (SENEAGRO) was established. This improved efforts to channel IICA's support toward the weakest link in the technology generation and transfer process, which is training for extension personnel from SENEAGRO, other units of the Ministry of Agricultural Development (MIDA), the Agricultural Research Institute (IDIAP) and the Agronomy Department of the University of Panama. This training concentrated on methods and strategies for agricultural extension. The action was part of a laudable effort by the Government of *Panama* in 1984 to streamline the transfer of research findings toward farmers. The training process was of such a magnitude that it was carried out on a regional and progressive basis, so that subject material could be adapted to the geographic conditions in the country.

The Program in the *Dominican Republic* supported the structuring of a model for organizing extension. A working approach for tech-

nology transfer was designed, to be based on production systems by region and by product. This will help tailor research findings more closely to the needs of farmers. A special IICA mission, with full participation by national authorities, fine-tuned the new working methods, which will go into effect in 1985, the base year for formal project operations.

The multinational project focused its efforts on *Costa Rica, Guatemala, Panama* and the *Dominican Republic,* where major tasks included support for the development of dairy production programs, based on models generated through experiments in each country. In addition, the Proceedings of the Round Table on Animal Production were published as a part of the Central American Cooperative Program for the Improvement of Food Crops (PCCMCA). The document contains information on experimental progress made during the year on the Central American Isthmus and in the *Dominican Republic,* as a mechanism for regional cooperation.

Area 2 – Caribbean

Seven projects were carried out in five of the nine countries of the Caribbean Area.

Support was provided in *Barbados* for technology transfer in food crop production in the context of diversification with fruit and vegetable crops, required by the country. Initial progress was made with experimental trials, and several sets of guidelines were prepared. The fruit development project introduced fifty new cultivars of tropical fruits from different sources, and a germplasm bank was set up. During this period, the program also concentrated its work on training national technical personnel and farmers, as a basic requirement for increasing crop diversification and developing orchards.

Major support was provided in *Grenada* for training extension personnel and students in various facets of food crop production development. This was a continuation of efforts launched by the Simon Bolivar Fund. Crop diversification was promoted through training and research efforts in farm planning and management, basic crop production principles, and multiplication of perennial plants, and text material was prepared for this purpose.

Program II in *Jamaica* contributed to technology research and transfer agencies using the "management system" approach for

small-scale farmers in high-priority geographic areas. The major products affected were tubers, green vegetables, and grain legumes. Experiments with farm management tested soil conservation methods through field work and in-service training. Results were promising, and it is hoped that they can be extended to other areas with similar ecological conditions.

Support was provided in *Suriname* in implementing the Coconut and Oil Palm Center as a first step in expanding the crop area used for these species and in raising productivity per unit of land surface. Program efforts concentrated on research into plant pathology and entomology problems, which place constraints on production of these crops. Information developed locally and internationally was thoroughly reviewed for use in developing technical guidelines based on the field work. At the same time, a short-term action was carried out to cooperate in the organization and administration of agricultural research conducted by the Ministry of Agriculture. This was a means of strengthening the entire technology generation and transfer process, and a major diagnostic document was produced by the IICA National Office Director.

Cooperation with research in *Trinidad and Tobago* focused on regional Caribbean agencies, such as the Caribbean Research and Development Institute (CARDI), the University of the West Indies (WIU) and the Caribbean Agroeconomic Society (CAES). Special emphasis was placed on training national personnel through an exchange of professionals, seminars, workshops, conferences and field visits. Advisory assistance was provided in information methods, especially for CARDI, which attaches special importance to this area.

Area 3 – Andean

Program II carried out eight projects in four of the Andean Area's five countries. The exception was *Bolivia,* where the projects for agricultural development in the country's three geographic regions placed emphasis on production systems in the approach to technology generation and transfer.

In *Colombia,* support was provided to the Colombian Agricultural Institute (ICA) in organizing and administering research and technology transfer. Several working documents were prepared on planning and implementation, policy analysis, policy measures and specific activities, as well as guidelines for programming operations.

Cooperation was also provided to the National Sugar Cane Research Center (CENICAÑA), a private institution which served as a model of the "technical-scientific brokerage" approach. The institutional nature of this project and the form of cooperation provided were specifically evaluated to determine the feasibility of extending the approach to other cases, as an effective working tool for IICA.

In *Ecuador,* support was given to the National Agricultural Research Institute (INIAP) in agricultural technology generation and transfer, particularly in programming and administration of research. Training was also provided for national professional staff, and assistance was given in preparing publications. An evaluation project on tropical pasture studied the survival of introduced germplasm material under systems of mowing and grazing, and systematic records were kept of live weights of animals, using different forage mixtures, to determine feed quality. Achievements were encouraging, although further data must be compiled before the findings can be released.

Contributions in *Peru* were made to the National Agriculture Research and Outreach Insitute (INIPA) in planning, programming and implementation of research through the Office of Agroeconomics. The Centers for Agrarian Research and Outreach (CIPAs) received regional-level support in developing an approach and strategy for research production systems, as a mechanism to facilitate technology transfer. While these actions were taking place, cooperation was also provided in training national personnel.

Research on Andean crops in campesino communities received special support. Farming and livestock systems were studied in typical and high-priority regions of the Peruvian highlands, so that the most efficient alternative system could be evaluated, and training was provided for several national technicians. Research into Andean crops was supported in cooperation with the schools of agronomy of the universities of these regions, and results have been promising.

At the same time, the Program was actively working in post-harvest research to analyse marketing channels. Studies were made of the installation of agroindustry modules for certain highly important crops, based on locally available technology. This will open doors to gradual change which the farmers are able to adopt.

Action in *Venezuela* focused on technology transfer for the public sector, an area which is weak by comparison with technology genera-

tion. Research is presently the responsibility of the National Agricultural Research Fund (FONAIAP). Documentation was produced on the technology transfer process in order to support the restructured operations of the technical assistance agencies of the Ministry of Agriculture and Animal Husbandry (MAC).

The Program also supported a series of revisions of the PROTEDEC project while it was being processed for final approval

In Brazil, Program II continued to support the CEPLAC project for research on Witches' Broom in cacao.

by national authorities. Finally, a working document was prepared on IICA-FONAIAP cooperation for implementing the technical cooperation component of the project. This document was formally submitted to FONAIAP for consideration.

Area 4 – Southern

Seven national projects took place in the Southern Area, together with one multinational project, the Cooperative Program for Agricultural Research (PROCISUR). These projects took place in all five countries of the region, and the multinational project also included *Bolivia,* a member of the Andean Area.

Until mid 1984, with the change of government, Program actions in *Argentina* focused on a project entitled "Coopération for regional coastal agricultural development." Activities included technology generation and transfer.

Negotiations then began with the new government authorities, and the result was a decision to initiate five short-term actions for: institutional coordination in the provinces; staff training; preparation of working documents; an international dairy production course for extension agents, using the production systems approach; and cooperation with the Argentine Association of Rural Agricultural Experimental Consortia (AACREEA) in implementing a new system for management with the design and development of new methodological models.

Technical cooperation in *Brazil* with the Brazilian Agricultural Research Institute (EMBRAPA) extended through the month of June 1984 under the IBRD I contract of the International Bank for Reconstruction and Development. It involved 1472 man/months of work, while the IDB contract required 356 man/months, and the IBRD II contract, 2115. In short, by September of 1984, 460 professionals had been hired as short-term consultants, with over 200 long-term consultants recruited in 32 countries covering four continents. These professionals made major contributions of their considerable know-how, urgently needed by *Brazil.* Similarly, over 1200 people participated in technical trips abroad, and 750 events were organized.

By the end of 1984, the project had a staff of 70 international employees, 56 national employees, 11 consultants and 3 associate

researchers, working in 21 different locations, primarily research centers, and operating 21 pre-planned activities.

In addition, progress continued on two projects with the Executive Commission for Cacao Production (CEPLAC) in physical and biological research, and in studies of Witches' Broom in cacao. Over 358 additions were made to the genetic resources bank, and 10 000 trees were planted for conserving genetic resources, including 120 new clones. Furthermore, 106 new hybrids were produced for Bahia and Amazonas, technical literature was expanded in Witches' Broom disease, and the first phase of the microclimate information collection was introduced.

Cooperation was established and formalized in *Chile* in technology generation and transfer with the Agricultural Research Institute (INIA) and the Agricultural Development Institute (INDAP), under policies established by the Ministry of Agriculture (MINAGRI). The fields of action included planning, evaluation methods, and upgrading economic programs to support the system. Field work focused primarily on the country's Region VII, and results will later be extended to other regions.

The Program in *Paraguay* provided technical cooperation under contracts originally funded by IDB. The contract was not renewed until September 1984, and scheduled objectives were therefore only partially attained. Nevertheless, support, was given for institutional organization in agricultural technology generation and transfer and in administering the technical personnel training program. Ten scholarships were granted, four scholarships for international study were completed, and two short courses were carried out.

The following high-priority fields for IICA's technical action in *Uruguay* were identified: planning, technical assistance for the study of production systems in experimental stations, support for the graduate program, and concentration of activities resulting from the implementation of PROCISUR.

The multinational project PROCISUR, so called in this, its second phase, was formalized through a multilateral agreement which is now under operation. The international professional staff is still being developed in accordance with the agreement and the three-year plan. During its first phase, this project yielded excellent results and merits

a careful evaluation that should be disseminated throughout the world to publicize the scope and benefits that this type of project can provide for participating countries.

program III

Conservation and Management of Renewable Natural Resources

Introduction

It cannot be overemphasized that certain factors have a strong impact on food production and on the ability of the countries of the area to achieve self-sufficiency. These factors are: an average demographic growth rate in Latin America and the Caribbean which suggests the population will double in 25 to 30 years; a stepped-up process of population concentration in urban zones; a reduction of water supply due to deforestation and poor water use; the rising cost of inputs for animal feed, pesticide and fertilizers; storage problems for agricultural products; marketing difficulties resulting in severe post-harvest losses; insufficient progress in extending the agricultural frontier; the high and growing cost of large scale irrigation projects; and the slow process of education for preparing well-trained personnel.

For all these reasons, the future of this growing human population

and of resources for feeding it is increasingly in jeopardy. Among the many causes of concern are natural phenomena including both excess (floods) and shortages (drought), overuse of certain zones; misuse of resources in areas with a delicate ecological balance; and major desertification processes in formerly productive zones.

Water resources are a clear example of this situation. Water, unlike metals, petroleum, wheat and other products vitally important in today's world, is normally used in large quantities, but rarely transported long distances. As a result, although water is part of a vast world-wide cycle, its value and use as a resource depend on local or regional supply and on how water is used and managed.

If present trends persist, this means that water may become a major constraint on economic activities and food production. The costs of traditional stategies for the storage and use of irrigation water have grown so swiftly that new strategies must now be designed. Unfortunately, however, few countries have recognized this need, and as a result, appropriate policies for the future have not been developed.

This situation is true for other renewable natural resources as well, such as forests, wildlife, and the land itself in terms of organic matter and nutrients.

This is why IICA's goal is to formulate, carry out and evaluate integrated plans and multinational and national projects. The countries require support in their efforts to reverse negative and destructive processes and adopt acceptable practices for the conservation and management of their renewable natural resources. In this area, the Institute is carrying out various technical cooperation actions, as summarized in the following pages.

ACTION IN THE COUNTRIES

Area 1 – Central

Two projects were carried out in *Costa Rica*. The first, "Support for agricultural zoning," successfully completed all activities as planned, following the schedule established in the project's IICA/MAG/MIDEPLAN Agreement. One result was the identification of needs for further zoning projects, and the basis was established for

developing six maps using a 1:200 000 scale for zoning rice, coffee, macadamia, cardamom, oranges and lemons. Once these maps have been published, they will be made available for distribution.

The second project was multinational, entitled "Agroclimatic study and zoning in Latin America and the Caribbean." The activities and achievements of this project reflect considerable interest among the participating institutions in the field of agroclimatology and identification of critical factors for agricultural production. The project attracted the attention of the Coffee Research Center (CENICAFE) in *Colombia,* where it was used in developing zoning methods for coffee plantations in that country. The agroclimatic study of *Haiti* was completed and laid the groundwork for establishing arid and semi-arid zones. In *Nicaragua,* the project cooperated in developing a project on agroecological crop zoning.

The program completed an interpretive analysis of the findings for the Northern Pacific zone of *Costa Rica,* and continued developing zoning methodologies for coffee.

Another important effort was the preparation and presentation of documents in technical meetings, such as the international conference "Water Requirements of Crops," held in Paris, France, with financial support from the French Office of Overseas Scientific and Technical Research (ORSTOM). A workshop on coffee area profiles was also attended.

An analysis was carried out on the status of renewable natural resources in *Nicaragua.* Cooperation focused on developing a project to be carried out in 1985.

Progress was made by the project in *Panama* to support the National Office of Renewable Natural Resources. As a result, a project document was prepared on "Hydrological and forest management and correction in the Panama Canal Basin." The document was submitted for funding to AID and the Panama Canal Commission. Progress was also made on the documents "General Draft Bill on Forests in Panama" and "Considerations on a Draft Bill for Reforestation by the National Union of Lumber Industries."

Training activities included several events designed to modify the internal and inter-institutional coordination of the National Office of Renewable Natural Resources (RENARE). The organization and

functions of the Forest Service were also redrawn. Progress was made on a study of forestry training to design a new plan for implementation in 1985.

Area 2 – Caribbean

The program in *Haiti* gave technical support to the Department of Agriculture, Natural Resources and Rural Development (DARNDR) and ODVA. The focus of this assistance was on water resources and the management of soil and water resources in arid and semi-arid zones for crop production.

The support for DARNDR took the form of an inventory of irrigation systems in *Haiti* and the development of feasibility studies for upgrading existing irrigation systems. Training efforts placed emphasis on the preparation of a first course on Irrigation, Drainage and Management of Water Resources. Cooperation was provided in preparing new technical assistance projects in irrigation, drainage and water resource management for the Rio Blanco and the Dubreuil system. These projects should be formalized in 1985.

The region boasts the highest ratio of potentially arable land to total surface area. Expansion of the agricultural frontier in Colombia.

The program also completed preliminary steps toward developing an agroclimatic study of the country. This study would provide the basis for marking out the borders of arid and semi-arid regions. In addition, national technical personnel received training in climatic data management.

The Program was also active in the *Dominican Republic*, were it worked on three projects: "Reinforcing the system for the conservation and management of renewable natural resources;" "Plan for watershed protection in the Rio Blanco hydroelectric project;" and "Study of the operation of the hydraulic resources system in the Rio Nizao Watershed."

Activities under the first project included technical consulting services for implementing the new law on water rates, support for research into water production, and support in agroforestry and forestry. Progress was also made with negotiation and implementing or reprogramming activities in approved projects, such as the negotiation of new externally funded projects sponsored by AID and the International Fund for Agricultural Development (IFAD).

The Rio Blanco project included implementation of a program to protect the Rio Blanco Watershed. It received participation from the Committee for Economic Development (CED), IICA, Colorado State University (CSU) and CATIE. Activities were fully redesigned and brought into line with real potential for implementation.

The Rio Nizao Watershed project is new. Financing was made available under the IICA-CSU-National Hydraulic Resources (INDRHO) Agreement, and actions were carried out as scheduled. Mechanisms for computer-based satellite communications went into full operation in 1984, and high quality results are expected from this project in the future.

Area 3 – Andean

Venezuela is the site of a project for technical support to the General Sectoral Office of the Ministry of Agriculture and Animal Husbandry (MAC), and ties of close cooperation have been developed with the new authorities. Training efforts benefited 46 professionals and technicians from this institution. In addition, several drafts were prepared of general modular rules for improving the management and

development of irrigation projects in the country, and twelve workhops were used as the basis for a diagnosis of the general irrigation problem under MAC responsibility. The recommendations were then submitted for consideration by the General Sectoral Office and for final decisions by the National Agricultural Board.

Area 4 – Southern

Support was provided in *Argentina* for the National Agricultural Technology Institute (INTA) in the irrigation program for Southern Patagonia. The work addresses the problem of low productivity in livestock and farm production due to poor use of irrigation water, affecting forage and other crop production. The support for INTA included designing a program for irrigation research, to be implemented in the affected region.

Activities in 1984 included a general reconnaissance of the region by a consultant, whose report was submitted to the consideration of the Secretariat for Agriculture and Livestock and the National INTA Office. This report provided a basis for developing the research program and defining IICA's role therein, and for the preparation of an IICA project which will provide technical backing.

Brazil was the site of six national projects and one multinational project:

1. Technical cooperation with the Ministry of the Interior and other agencies in the design, development and implementation of plans, programs and projects for irrigation farming.

   Activities in 1984 produced the expected results with the different agencies attached to the Ministry of the Interior (MINTER). These included the following:

   – A proposal was developed to design MINTER irrigation policies in the Northeast and to propose work projects that will be carried out by the core irrigation team for implementing the regulations contained in the Irrigation Bill, and for performing an evaluation study of systems for setting water use rates.

   – The project participated in an analysis of the funding prospects for irrigation projects by the National Department of Drought Control (DNOCS) and the Development Agency of the San Francisco Valley (CODEVASF).

- Basic documents were prepared for the Canaa irrigation project in the State of Paraiba.

- MINTER and the Superintendency of Development for the Northeast (SUDENE) received support in formulating state irrigation programs that fit in with the strategies of the Northeast project.

- A proposed working plan was developed for the core irrigation team and the Secretariat of Agriculture of Minas Gerais.

- The state governments of Piaui, Sergipe, Paraiba, Ceara, Alagoas and Bahia and the agencies that are coordinating the Northeast project received advisory assistance in developing state water resource programs.

- Advisory assistance was provided to the Federal University of Pernambuco in drafting a research project on the land benefiting from the Sertanejo project.

- Cooperation was provided in planning an integrated development project for the renewable resources of the Concepcion watershed in the Northern Fluminense.

- Cooperation was provided in coordinating training activities for various projects.

2. Technical cooperation with CODEVASF in the operation and maintenance of irrigation districts.

   Actions were carried out to promote and intensify the use of handbooks and operating regulations. Methods were developed for guiding staff members who work in the installation and calibration of water mensuration devices.

   Criteria were established for guiding the leaders of irrigation districts in formulating monthly irrigation timetables, carrying out farm plans, establishing multidisciplinary teams, formulating and implementing maintenance plans, improving operating efficiency, and water and soild management in irrigation and drainage systems. Other actions were carried out to improve administrative proce-

dures, such as budget preparation, expense control, and water rates. In addition, courses were given to train personnel in the administration and operation of irrigation districts.

3. Technical cooperation with DNOCS in the operation and maintenance of irrigation districts.

   The Program achieved concrete results with consulting services on designing and implementing a system for the operation and maintenance of irrigation districts on the basis of the working plan for four regional offices, and a timetable of activities for twelve irrigation districts.

   Operation and maintenance plans were developed for the districts of Caldeirão, São Goncalo and Lagoas do Piaui, and two diagnostic studies were prepared for the Moxoto and Lagoas do Piaui districts.

   Staff members from the regional office and from the central bureau received in-service training. Their area of responsibility includes the operation and maintenance of the districts.

4. Technical cooperation with the National Program for the Use of Irrigated Plains (PROVARZEAS) of the Ministry of Agriculture in irrigation farming programs.

   Project actions included human resource training and consulting services and technical support at the three project levels: national, state and product-by-product, with special emphasis on the national level.

   Special training emphasis was placed on the analysis and evaluation of irrigation and drainage projects and on the preparation of guidelines for project evaluation.

   Another important activity was the preparation, implementation, technical guidance and evaluation of demonstration projects for irrigation and drainage. In addition, a demonstration study project was prepared on irrigation and drainage for the Agricultural School of Brasilia.

   Several courses were held for farm producers and to train technicians from *Brazil* and other countries (*Peru, Paraguay, Mexico* and *Argentina*).

5. Technical cooperation with the Federal District Secretariat of Agriculature and Production in the area of irrigation.

   An irrigation plan was completed for the Federal District, with modification proposed by the Secretariat of Agriculture. The document included strategies for developing thirty small- and medium-scale irrigation projects and for fourteen previously determined high-priority projects, as well as a plan for the operation of an irrigation program in the Federal District. This plan is now being reviewed by the Secretariat.

   Support for small-scale irrigation projects placed special emphasis on:

   — review, analysis, follow-up and supervision of projects in different areas of influence;

   — supervision and follow-up of the construction of small irrigation projects set up by Zoobotanic Foundation and support for the

In 1984, national agroclimatic institutions participated actively in the multinational project for Agroclimatic Studies and Zoning in Latin America and the Caribbean.

Irrigation and Soil Conservation Commission of the Federal District in developing studies on the construction of projects for soil protection and conservation in the Tabatinga rural area, in the Rio Jardin watershed.

Training and technology transfer activities focused on in-service training for professional personnel and middle managers from the Secretariat. Special emphasis was placed on planning and evaluation of natural resources, physical planning of irrigation areas, preparation of irrigation projects, construction of small irrigation projects, and the operation and maintenance of irrigation systems.

6. Technical cooperation in natural resources and irrigation in Bahia.

The purpose of activities under this project was to support the survey and use of renewable natural resources and the development of small- and medium-scale irrigation projects.

The following results were achieved in 1984:

- Soil and land classification maps were prepared for irrigation, land use and land capability, and division into plots and parcels for irrigation purposes.

- Renewable natural resources management and conservation programs developed.

- Training was provided and study plans were prepared in remote sensing and photo interpretation.

- Homogeneous zones were identified, and the water potential of specific watersheds was evaluated.

- Procedures were designed for presenting feasibility studies on irrigation projects and for methods to install and manage farm level irrigation systems and implement demonstration areas for irrigation.

- The project participated in preparing a state-wide irrigation plan and a support program for small-scale farm producers. The purpose was to modify and expand the proposal for the State of Bahia, to be funded by the World Bank as part of the Northeastern project, especially in the section recommending specific

goals in areas identified as high priority for public irrigation during the first five years, and in the document "Technical and Economic Feasibility Study."

The Program also worked in *Uruguay*, where the promotion of the National Program on Land and Water Conservation and Management included programming and coordination for the three participating offices: soil, water and forests. In addition, crop practices for using irrigation and soil management were applied on the plots of small-scale farmers through support provided to the Southern Rural Development Societies and the settlers of the National Settlement Institute.

Training efforts included assistance for technical personnel interested in pursuing graduate studies or in attending international conferences.

IICA-Tropics Multinational Project

In addition to the foregoing, the Program was active in the multinational project "Rational use of renewable natural resources of the humid tropics in the Amazon countries, IICA-Tropics." Of special note in this project was the meeting in Brasilia, which brought together representatives of institutions from the Amazon countries for the purpose of establishing guidelines to reformulate and revitalize the IICA-Tropics project and its relations with the Amazon Cooperation Treaty.

In response to one of the resolutions of the meeting, basic information available in the countries was surveyed. This provided a basis for preparing the reformulated IICA-Tropics project, which will be submitted to the consideration of the countries in a future meeting.

Progress was also made in the area of documentation. Directories were developed of research institutions and professionals in the field, and they will be distributed to the countries. Technical realtions were maintained with libraries in the region and with consulting services for INFORMAN (Amazon Information System), a part of the National Scientific and Technological Development Council (CNPq).

The Program continued working with the project on agroforestry systems for developing the Belterra community. Sixteen demonstration plots were established, associating rubber with rice, beans, bana-

nas and forage legumes. Family demonstration gardens were established for crop diversification, and technical support was continued for the PDAI-Tropics in *Bolivia*, under the guidance of the IICA Office in that country.

program IV

Animal Health

Introduction

It is a well known fact that in the five years since its implementation, the Animal Health Program has had a very positive impact on IICA's Member States. Most of the countries have at one time or another benefited from the activities for technical cooperation in animal health provided within multinational projects and these in turn have served as the basis for the development and implementation of new animal health projects and actions in the Member States.

IICA's Animal Health Program is renowned for its outstanding work, its important role in determining the policies and priorities of the participating countries and its efforts to restructure animal health services.

The Program's success has been the result of technical meetings at the regional and subregional levels,

training activities in different areas of specialization, the direct support provided by specialists in animal health and the efforts of consultants working with national authorities.

Latin America and the Caribbean countries have identified the following general high-priority areas: the strengthening of diagnostic animal health laboratories and quarantine facilities to control the import flow of livestock and animal products; the preparation of emergency measures to combat exotic diseases; and the control and eradication at a national and international level of ectoparasites and other economically significant diseases.

The countries have made substantial progress in these four areas with programs designed to address their concerns and by the implementation of projects to solve the more important problems affecting each area.

The most recent achievement in this hemisphere was the eradication of African swine fever in *Brazil, Haiti* and the *Dominican Republic,* an essential step toward preserving the swine industry in the Americas.

The successful eradication of foot and mouth disease in *Chile* and important steps taken to ensure complete eradication of the disease in other countries of South America, were equally significant. Foot and mouth disease is the area's major obstacle limiting the production and international marketing of livestock and animal products.

Important progress was also made by the program to eradicate the screwworm. The program, a joint effort by *Mexico* and the *United States,* aims at eliminating the parasite throughout most of Mexico, pushing the frontier of the disease as far as the isthmus of Tehuantepec.

The *United States* program to eradicate avian flu met similar success. This disease posed a major threat to the poultry industry in the hemisphere.

The foregoing are just a few of the many advances made by the countries in the field of animal health, but the full implications of the progress made by the countries are immeasurable. The benefits of keeping a country or subregion free of diseases with the potential to devastate the livestock industry cannot be quantified.

Perhaps the most important result of these efforts was the increased awareness on the part of producers and authorities of the role played by animal health programs, and their subsequent effects on production and productivity, industrialization and marketing.

IICA's Animal Health Program played an important role, both directly and indirectly, by supporting the efforts of the governments to develop their own programs and activities in this field. Below is a summary of the principal activities for cooperation.

ACTION IN THE COUNTRIES

Area 1 – Central

The Program continued to take the necessary steps towards the implementation of a project to coordinate screwworm eradication in *Central America* and *Panama,* with the support of the *United States* and *Mexico.*

In Guatemala IICA supported the Animal Health Program of the Ministry of Agriculture, Livestock and Nutrition, MAGA/IDB.

The project for Technological Exchange for Animal Health and Production in *Mexico, Central America, Panama* and *the Dominican Republic* was prepared and approved for funding by the Inter-American Development Bank. The Program helped professionals from *Costa Rica, Honduras,* and *Nicaragua* update their know-how through visits to diagnostic laboratories in *Mexico.* In order to prepare this project, a study on the present status of central diagnostic laboratories in *Guatemala, Honduras, Nicaragua, Costa Rica* and *El Salvador* was prepared.

The Third Meeting of the Central Area Directors of Animal Health was held in *Guatemala* during the month of October. The meeting studied the animal health problems affecting the region and made recommendations for the solution thereof.

A project on training in differential diagnosis of African swine fever and hog cholera continued in *Central America, Mexico* and *Panama* under the guidance of a consultant sponsored by the Spanish Government. In *Costa Rica,* extensive laboratory and field study revealed that the country was now free of hog cholera.

In *Mexico, El Salvador, Honduras, Panama* and *the Dominican Republic* courses were given to train specialists in the prevention, control and eradication of exotic diseases. The Institute and the trained professionals then set up emergency task forces to act immediately in case of an exotic disease outbreak affecting animals in the region.

In *El Salvador,* the Program worked with the government in the preparation of a project profile to control tick and torsalo, and in *Panama* its efforts focused on a project to promote livestock and animal health.

In *Guatemala,* support actions were provided for the government to develop the Animal Health Program of the Ministry of Agriculture, Livestock and Nutrition (MAGA-IDB). In *Honduras* support actions were geared toward the preparation of a project for cattle development and animal health. The IDB has since agreed to finance this project.

In *Nicaragua* and *El Salvador* courses were offered on the use of continuous refrigeration processes in animal health programs. In *Mexico,* the General Office of Animal Health received support in its

efforts to restructure its Regional Reference Laboratories. Support was also provided in the form of technical cooperation with the National Center for Animal Parasitology.

The Program actively cooperated with the department of Veterinary Medicine and zootechnics of *Mexico's* National Autonomous University to conduct a poll of technical information in veterinary schools in the hemisphere. The resulting information will be compiled in a data base.

Area 2 – Caribbean

The Program continued actions to develop an information system on animal diseases in the West Indies. The Third Meeting of the West Indies Directors on Animal Health, held in *Trinidad and Tobago* in November of 1984, discussed the exchange of ideas and information on present health conditions in the countries and the future course of animal health activites. The occasion was also used to hold the first Caribbean Meeting of Directors of Diagnostic Laboratories.

After the initiation of the project for Epidemiological Surveillance and Animal Health Diagnosis, which was financed by the United States Department of Agriculture (USDA) and AID, *Haiti* was officially declared free of African swine fever in September of 1984. A fully equipped diagnostic laboratory was also completed in that country. It is important to note the progress made to implement the swine repopulation project which was financed by AID. The first animals are scheduled to be introduced in December of 1984.

In the *United States of America* a project began working on the molecular structure and biology of African swine fever virus at the Plum Island Animal Disease Center with the financial backing of the USDA-ARS.

The *Jamaican* Government was provided valuable support in the preparation of the project to eradicate the screwworm. The project is scheduled to begin in 1985 and will be supported by the *Mexican-United States* Screwworm Commission. *Jamaica* is presently preparing a tick control project.

Similarly, in *Saint Lucia,* the Program prepared a project to control the tick *Amblyomma variegatum,* and is now beginning to procure funds for implementation.

In *Dominica*, work focused on activities to eradicate the tick *Amblyomma variegatum,* which has been identified in the country. In *Grenada,* actions were geared toward the preparation of a project, under current consideration by the Ministry of Agriculture, to develop veterinary services.

In *Guyana,* several activities initiated under the health and fertility project focused on dairy cattle in that country.

Studies of the identification and epidemiology of blue tongue virus were continued in *Barbados* and other neighboring countries. The research is scheduled to continue well into 1985.

A seminar-workshop for veterinarians in the Caribbean was held in *Guyana.* The activity, based on the most recent advances in the field of theriogenealogy, was geared to increase production and productivity, and was attended by IICA and the Pan American Health Organization (PAHO).

In *Trinidad and Tobago,* a similar seminar was held for farmers, specialists and veterinarians on poultry diseases.The activity was sponsored as a joint project with the country's Ministry of Agriculture.

Area 3 – Andean

The First Andean Area Meeting of Directors of Diagnostic Laboratories was held in *Ecuador,* in September of 1984, to lay the groundwork for developing the Andean Network of Animal Health Laboratories. The network is designed to facilitate the exchange of technology among the member countries.

In October, the Andean Area Meeting of Directors of Animal Health, held in *Venezuela,* recommended that *Peru's* efforts to eradicate foot and mouth disease be given full immediate support.

In *Peru,* support actions were carried out in the milk producing areas of Cajamarca, Lima and Arequipa to identify and control the major problems affecting production and productivity. Support was also continued for the special Pichis Palcazu project to control bovine rabies in affected areas. Support was given to the Board of the Cartagena Agreement for the implementation of the Third Andean

Seminar on Cattle Raising and the Second Congress of the Andean Cattle Ranchers Confederation, held in Arequipa. In *Peru,* the Pan America Health Organization received assistance on its work with public veterinary care.

In *Ecuador,* a diagnostic study of hog cholera was completed with AID funding. The study will prove instrumental in determining future actions for eradicating this disease.

In *Venezuela,* the IICA-MAG Cooperation project, made possible with financial support from the government, worked to support actions for animal health such as activities to control brucellosis, tuberculosis and bovine rabies in contaminated areas.

In *Colombia,* the program promoted support activities for the Colombian Agricultural Institute focusing on diagnostic laboratories and programs to control brucellosis, tuberculosis and bovine rabies.

In *Bolivia,* general support actions were provided for the National Service to control foot and mouth disease, bovine rabies, and brucellosis.

Substantial support was also provided to the United Nations Food and Agriculture Organization (FAO) and the Board of the Cartagena Agreement in the implementation of the First Subregional Andean Course for Animal Health Inspection at ports, airports and border posts and for the implementation of a seminar on Epidemiology and Veterinary Economics in Latin America.

Area 4 — Southern

In *Brazil,* the Program provided substantial support for the preparation of a project on tick and botfly control, to be presented to the Inter-American Development Bank for financing in 1985. Support activities continued in that country to strengthen the National Laboratory Network and the Pedro Leopoldo Central Reference Laboratory (LANARA). A preliminary evaluation was conducted to determine the possibility of implementing a project to eradicate screwworm (*Cochliomyia hominivorax*).

Brazil was declared free of African swine fever in December 1984.

In *Argentina*, actions took place under an Agreement with the National Animal Health Service (SENASA), to strengthen a work group assigned to determine residues in beef, enabling that country to continue its beef exports. Other actions taken ensured operation of the Regional Center for Training in Animal Health of the La Plata University. Support was provided for the programs to control foot and mouth disease, brucellosis, tuberculosis, infectious horse anemia, hog cholera and ticks. The Diagnostic Laboratory Service also received assistance.

It is important to note that the few outbreaks of foot and mouth disease in Chile during early 1984 were controlled, and that, consequently, the country was once again declared free of the disease. The Program made important headway in controlling hog cholera and infectious horse anemia, both of which should be eradicated shortly.

The IICA-MAG Agreement signed in *Paraguay* worked to strengthen activities for controlling hog cholera, infectious horse anemia and

In 1984, Program IV created a Working Group charged with the task of preparing the "Plan for Animal Health in the Americas by the Year 2000 – PLASA 2000."

Newcastle disease. Actions to reinforce quarantine inspections system at airports and border posts were given high priority.

In *Uruguay*, the Program collaborated closely with the government to develop support for the Laboratory for Diagnosis and Biological and Pharmaceutical Control. IICA also worked to support and develop future projections for the country's health programs, especially for control of ticks and other ectoparasites.

During the month of October, the Third Meeting of the Southern Cone Directors of Animal Health, held in Chile, served as a forum for important exchanges among the delegates in attendance. The Third Meeting of Southern Area Directors of Diagnostic Laboratories was held in November in *Argentina.* It provided an opportunity to strengthen ties for technological exchange among these units.

Actions at the Regional Level

In August of 1984, IICA headquarters gathered together a work group, as recommended by the Inter-American Animal Health Commission (COINSA I), to prepare an "Animal Health Plan for the Americas by the year 2000 (PLASA 2000)." The working group prepared a document that, together with commentaries made by the governments in the hemisphere, will be presented to COINSA II in Brasilia, in April of 1985.

In accordance with recommendations of COINSA I, a study was prepared on the present status of mass media on animal health in the hemisphere, which will be presented at COINSA II.

Finally, the Program worked to advance a proposal to establish an Inter-American Information System on Animal Health and Plant Protection, to be presented to the countries for their consideration and eventual implementation.

program V

Plant Protection

Introduction

The decade of the 1980's is characterized by certain major trends which provide a framework within which to examine agriculture around the world. Plant protection of different crops must figure within this same framework.

The gradual increase of the world's population suggests that by the end of the century the present population of 4 billion people will have increased to 6.5 billion. It is also expected that larger sectors of the world's population will gradually improve their standards of living, and this means that the consumption of food and various raw materials will increase.

This rising standard of living will neither be total nor automatic. By the end of this decade, much of the human race will continue to be underfed and struggling to make gradual improvements in their lives.

It is therefore essential to think about the urgent need to increase production and improve storage facilities.

These expectations for increased production go hand in hand with the continuous, growing awareness of the hazards of environmental pollution. At the same time, the ecological balance is breaking down due to human intervention as a result of modern industrialization and urbanization trends.

This awareness had led to increase the discussion on conservation of the environment, natural resources and human life. At the same time, however, criticism should be targeted at the widespread, indiscriminate use of agricultural pesticides which affect food quality and the safety of population and animals. Accordingly, the next few years will continue to witness a dialogue concerning pesticide residues and the disruption of biological chains.

The present situation can be summarized as follows:

a. The human race is confronting an urgent need to increase agricultural production, using the growing endowment of technological know-how, to mobilize large-scale natural resources which today are being used only partially. This production growth cannot overlook the protection of natural resources (soil, water and others) or of human and animal health. It will not be easy to transform agricultural practices to meet these higher-level goals, and in this realm, plant protection specialists play an important role.

b. This decade poses well-founded expectations concerning progress in the methods of controlling the different pests that are destroying our crops. As a result, it is becoming less and less valid to state that "the farmer collects only what the pests leave behind."

   One of the limiting factors on food and raw material production growth in agriculture is the destructive action of pests, diseases, weeds, vertebrates and others. While it is very difficult to furnish a precise figure on losses caused by damaging parasites and other agents, it is not excessive to assign an overall value of between 30 and 40 percent of potential production, a figure which also includes post-harvest losses. It is important to stress that these figures should also include losses in those countries which are far ahead of the rest of the world in terms of access to advanced technology and pest control mechanisms. The magnitude of these

figures on crop losses is eloquent enough to produce a major impact.

Our world needs more and more food and plant-derived raw materials. At the same time, agriculture is losing at least one third of its potential harvest due to damaging agents.

Important plant protection considerations and factors affecting them

A number of major plant protection problems are affecting crops. For example, the Southern Area is suffering from citrus bacteria, Mediterranean fruit fly, predatory birds and coffee rust. Some of the causes of these problems include:

In Argentina Program V worked to develop an information project on harmful crop pests, pest interception and aerial application.

a. new areas under production in marginal zones, that have changed the environmental conditions by creating an appropriate habitat for the development of new pests;

b. the introduction of new pests;

c. the need for appropriate policies that will provide an incentive for pest control.

Common plant protection issues affecting different groups of countries

a. Harmonization of plant protection legislation in the areas of:

1) Procedures:

a) quarantine;

b) pesticide residues;

c) specific health problems (citrus bacteria, Mediterranean fruit fly, etc.).

b. Adoption of standardized measures for treating certain goods at the point of origin, to prevent the spread of pests and to initiate marketing mechanisms.

c. Implementation of systems for information and dissemination at the national, regional and hemispheric levels, including:

1) development of plant protection information and dissemination systems;

2) resources for meeting emergencies in the countries;

3) analysis and dissemination of plant protection issues.

d. Staff training in:

1) plant quarantine;

2) prevention campaigns;

3) evaluation of losses;

4) appropiate use of pesticides;

5) integrated pest control.

e. Multilateral plant protection planning for the evaluation and development of guidelines for projects of interest to the area.

f. Restructuring and development of present facilities in plant protection agencies:

1) quarantine stations;

2) surveillance posts;

3) reference laboratories (pesticides-identification);

4) plans for breeding beneficial insects.

These various areas of technical cooperation are part of the situation that the Program must confront in coming years.

The Plant Protection Program's major achievement around the hemisphere in 1984 are summarized below.

ACTION IN THE COUNTRIES

Area 1 – Central

The Program was active in the area of appropriate pesticide management. It received close support from the General Plant Protection Office in *Mexico* and the IICA Office in that country, in planning, coordinating and financing a number of training events. The first took place in the regional laboratory of Irapuato in the State of Guanajuato, Mexico in October 1983, and covered the subjects of sample systems and analytical chemical techniques for pesticide detection. Three training courses were held on Mediterranean fruit fly control and on pesticide quality control and residues. They were attended by 37 technicians from the eight countries of *Central America* and the *Dominican Republic.* In-service training was provided for six specialists from three countries in moniliasis in cacao and black sigatoka in banana and plantains.

The Program offered two courses on integrated pest management, attended by a total of 32 specialists, in *El Salvador* and *Nicaragua.* Courses were held in *Guatemala* on prevention of post-harvest losses in basic grains, and were attended by 54 persons.

The Directors of Plant Protection of the countries of *Central America, Panama, Mexico* the *Dominican Republic* and the *United States of America* attended two important seminars on lethal yellowing of coconut and citrus bacteria. A course on agricultural pest management and control was held in *Panama,* to discuss population management of organisms and pests affecting crops of economic importance. The course was attended by 24 staff members from the Plant Protection Department and other offices of the Ministry of Agricultural Development.

The Program supported plant protection activities of the National Plant Protection Office of *Panama,* in the form of three presentations on the appropriate use and management of pesticides. A joint meeting was held between IICA and the Regional International Organization of Plant Protection and Animal Health Care (OIRSA), to discuss such subjects as citrus cancre, the Moscamed Program, bean slugs, pesticides, harmonization, and regional plant protection problems.

The program also carried out the following training activities:

- training in chemical and analytical methods for quality control on pesticide formulae, attended by seven persons from *Panama, Central America* and *Mexico;*
- black sigatoka control in Honduras, attended by five persons from *Panama, Mexico* and *El Salvador;*
- support for the Mediterranean fruit fly course in *Guatemala;*
- integrated management of agricultural pests in *Nicaragua,* a course attended by 19 technicians from government agricultural enterprises and by 13 national instructors;
- integrated management of agricultural pests in *El Salvador,* to train 36 staff members from the Agricultural Protection Office and other public agricultural sectoral institutions;

- a workshop on post-harvest losses in Juliapa, *Guatemala,* to train 30 staff members from the public agricultural sector at the national level;
- a basic course on post-harvest losses in basic grains, held in Juliapa, *Guatemala,* and attended by 24 technicians from the public agricultural sector in Region VI;
- support for the National Course on Coffee Rust and Coffee Berry Borer in Chiriqui, *Panama;* and
- financing for a public officer from *Nicaragua* and from *Guatemala* to receive training in a course organized by the AID Regional Office for *Central America* and *Panama* (AID-ROCAP), at the Tropical Agricultural Research and Training Center (CATIE) on the taxonomy of insects important for agriculture.

Area 2 – Caribbean

The Program provided technical assistance for various plant protection endeavours in the Caribbean. It cooperated in organizing a meeting of specialists to discuss post-harvest quarantine treatments in tropical fruits. This meeting was held in Miami, Florida in March 1984. The program also presented a paper on "IICA policies for germplasm exchange" at the meeting of the *Ad-Hoc* Group, to strengthen plant protection in Latin America and the Caribbean.

Several activities were carried out in plant quarantine training. The objective was to improve technical capabilities in the Caribbean for the identification of pests and diseases.

The Program cooperated with West Indies University and FAO in training 15 plant quarantine inspectors in *Saint Lucia* in August 1984. The FAO contributions to this training activity were an important step in interinstitutional cooperation for plant protection.

The Program also published its Fourth Informational Bulletin containing information on the most important activities underway in the region. It held a meeting of plant protection directors in the Caribbean Area, to discuss guidelines for the negotiation and concentration of program activities. For this purpose, the Plant Protection Directors in the Caribbean Area were requested to carry out a technical review of future program actions and goal achievements. The meeting was attended by 20 participants.

Area 3 – Andean

The Program worked to consolidate and improve plant protection offices in the Ministries of Agriculture and the countries of the Andean Area. It focused on developing appropriate structures for meeting the responsibilities and duties of plant protection through the development and institutionalization of training programs in the countries of the Andean Area. Subjects of special interest include integrated pest control, pesticide management and use, and control of plant protection problems in stored grains.

These courses provided training for over 135 agricultural engineers and specialists. Twenty-five participants were from *Bolivia, Ecuador* and *Venezuela,* and the rest were from *Colombia* and *Peru.*

Several study projects were promoted, and methods were developed for the evaluation of losses in crops and in post-harvest products. Joint programs were fostered among countries, specially in the Mediterranean fruit fly control campaign in *Chile* and *Peru.*

The Program developed several proposals for including plant protection programs in agricultural and integrated rural development projects. These proposals developed into a concrete project in *Bolivia,* and they were initially adopted in *Ecuador* and *Venezuela.*

Five major publications on plant protection went into initial preparation. The manuals cover biological control, pesticide management, integrated pest control, studies and control of plant protection problems in stored grains, and the present state and study of the Mediterranean fruit fly.

The Program held a Meeting of Plant Protection Directors in the Andean Area, attended by the Plant Protection Director from *Brazil.* The purpose of the meeting was to discuss the use of prevention measures dealing with plant protection problems of interest to participating countries and that could affect international agricultural trade. The following issues were addressed by the Directors from *Brazil, Colombia, Ecuador* and *Peru:*

a. the problem of black sigatoka in plantains;

b. significant quarantine issues affecting the region's agricultural trade with Brazil;

c. action against moniliasis and witches' broom in cacao;

d. the problems of the Guatemalan potato moth and its introduction into the Andean Area; and

e. possibilities for conducting joint campaigns.

The first stage of the "Evaluation study of rice crop diseases" in *Colombia* was completed. The three-year study in Tingo Maria, *Peru,* "to determine the epidemiological curve of coffee rust at three different altitudes" was also completed. This study made it possible to develop and disseminate methods and parameters for measuring the effect of coffee rust and identifying control periods.

Area 4 — Southern

The Program held a meeting of the Working Group on the Cotton Boll Weevil and a meeting of Experts on Cotton Boll Weevil in the *Paraguay-Brazil* border area, Foz de Iguazú, to establish strategies for controlling this pest which recently entered the Southern Area.

Chile and *Uruguay* continued to receive bilateral cooperation in training for Mediterranean fruit fly control. Bilateral cooperation between *Chile* and *Peru* continued for Mediterranean fruit fly control in the Arica-Tacna border zone.

The terms of reference were established for a consultant to develop a manual on plant quarantine standards. A meeting was held of the regional technical committee for the Southern Area, and attended by Plant Protection Directors in the countries of the Southern Cone. This provided an opportunity to negotiate activities and program actions in each country.

In 1984 the Program prepared a first draft of a compendium of the five countries in the area on a list of quarantine pests. The Directory of institutions and organizations of interest for plant protection in the Southern Area was completed and distributed.

Efforts for harmonization of procedures and legal instruments focused on a legal structure for quarantine and plant protection inspection in the Southern Area. The program completed a legal compendium on quarantine and plant protection inspection in *Argentina*. It also contributed to staff training in the areas of quaran-

tine and plant protection inspection, development of manuals, catalogues of harmful agents, records of interception, and computerized systems.

The information project in *Argentina* also developed a catalogue of harmful agents for crops. It designed and implemented a registry of interception of pests in imported plant products, introduced aerial application of plant protection products, and began a computerized record of plant protection human resources.

In addition to post-harvest losses, between 30 and 40 percent of potential agricultural production is lost due to harmful parasites in Latin America.

program VI

Stimulus for Agricultural and Forest Production

Introduction

At the hemispheric level, production for domestic consumption has declined considerably in recent years. This accounts for the marked deterioration in the coefficient of regional self-sufficiency in agricultural products, which has affected the availability of foodstuffs in the region. Accordingly, the countries of Latin America and the Caribbean have become net importers of basic commodities such as wheat, edible oils, corn, dairy products, sorghum, soybeans and rice.

Likewise, agricultural technology, based on what were supposedly relatively low fuel prices and the implicit belief that similar conditions would persist indefinitely, led to the creation of production plans which required modification in order to change the role traditionally assigned to agriculture, such as agroenergy and rationalized energy consumption in the rural sector.

IICA's current actions in this domain are geared towards satisfying the above-mentioned needs which have arisen in the sector. Similar efforts must be continued and strengthened in the 1986-1987 period, so as to improve and address the deficiencies in these countries, namely the identification of technologies suited to existing conditions for producers, the design of interdisciplinary projects and programs, the organization, implementation and administration of projects and programs, the training and availability of human and financial resources and the organization and coordination of production services.

ACTION IN THE COUNTRIES

Area 1 – Central

The multinational project entitled Cooperative Program for the Protection and Modernization of Coffee Cultivation in *Mexico, Central America, Panama* and the Caribbean (PROMECAFE) conducted support actions for the countries in the training of technical personnel, research and transfer of appropriate technology, development of a regional coffee data system and strengthening of research facilities, with special emphasis on the control of diseases (coffee rust and coffee berry borer) and pesticide residues, and the development and reproduction of rust-resistant varieties.

Other areas of action included robusta coffee management, coffee processing, experimental design and technical writing, which complemented the basic agenda delineated in the agreements governing the project.

In the training of technical personnel, the organization of courses at the regional and national levels were complemented by:

a. training for technicians from the Federal University of Vicosa, in *Brazil,* and in the International Coffee Rust Center, in Oeiras, *Portugal,* which could be expanded to include postgraduate studies in *France,* once initial negotiations launched with the French government are formalized;

b. observation trips between the countries, and

c. the organization of technical events at the national and regional levels (simposia and technical coordination meetings).

A total of 45 training activities were conducted, benefiting a total of 1 109 participants, including four scholarships for technicians to attend the International Center in *Portugal* and one scholarship for the University in Vicosa, *Brazil,* in addition to five technical meetings and five study and observation trips.

Research actions focused on the generation of information for the effective control of coffee rust and coffee berry borer, the detection and control of pesticides used in coffee production and evaluation of genetic material for the selection and reproduction of high quality and high yield varieties which are rust-resistant. As part of this last activity, 78 selections of genetic material were introduced, which enhanced CATIE's germplasm bank and benefited the countries.

Actions concerned with the transfer of technology were geared toward the development of a methodology for the processes of generation, adaptation, validation and transfer in *El Salvador, Honduras* and *Guatemala,* for later application in the other member countries.

In the field of information, and with the collaboration of the Inter-American Agricultural Documentation and Information Center (CIDIA), a work plan was formalized which includes the creation and strengthening of the documentation centers in the participating national institutions and their incorporation into the AGRINTER system. The plan envisages the development of a numerical information system, through the strengthening of a data bank containing information generated by the activities concerned with coffee rust and berry borer-resistant varieties, rust and berry borer control, residues and the characterization of coffee production systems.

Other PROMECAFE actions which complemented those described above, included the VIII Meeting of the Advisory Council, held in Xalapa, *Mexico,* the meeting of the Board of Directors of the Advisory Council, held in San Jose, Costa Rica, and the evaluation of the Regional Coffee Pest Control Project, under the charge of an external organization, whose conclusions and recommendations should prove useful in the final phase of the project.

In *El Salvador,* actions included strengthening of IICA's National Office, by virtue of the assignment thereto of two international experts whose presence contributed to the creation of two new projects: one in the field of rural administration, intended to support the Agricultural Extension System, and the other in the area of agricul-

tural production, based on a methodology for transfer of technology founded on appropriate strategy planning at the production unit level. This methodology is relatively new in the area and if its results prove positive, it could readily constitute a viable tool for the transfer of technology to the producer.

Both projects advanced substantially in the first phase with the establishment of contacts with official organizations, the definition of strategic geographic areas, and the training of work teams, which were further complemented by an already existing project to strengthen the operational capacity of the institutions responsible for promoting agricultural production.

In *Honduras*, the Program's technical support was geared toward the formulation and implementation of a livestock development plan, as well as the preparation of projects related to said plan, principally for the development of cattle production, the production of forage seed and the transfer of technology, which are slated for implementation in 1985.

Approximately 70 percent of the programs scheduled for this Project have been implemented. The remainder are deferred until early 1985, largely due to delays in the preparation of diagnostic information on livestock which is to constitute the basis of the Project.

It should be pointed out that one of the Project's major achievements was having coordinated the joint efforts of the two official institutions, namely the Secretariat for Natural Resources (SRN) and the Higher Council of Economic Planning (CONSUPLANE), both of which provided a technician to make up the work group.

The implementation of the Livestock Plan will facilitate substantial increases in milk production and productivity on the Project's cooperative farms (approximately 4 000) and the development of close to 180 swine production units, in addition to laying the groundwork for the improvement of forage production, the organization of producers, credit and the provision of inputs.

Actions to support the National Agricultural Development Bank (BANDESA) were more of a conjunctural nature, promoted by Bank officials and complementing programmed activities.

The Project supporting the improvement of livestock production in the *Dominican Republic* is in its early stages, and actions, which entailed the arrival of a specialist to the country, also included documentation, making contacts and becoming acquainted with the subsector's institutions and agencies, visits to and observation of producers and production areas, as preparatory work for the formulation of the Project, in addition to agreeing on and launching some of the efforts deemed central to the development of future actions.

With respect to the actions carried out during this period, special reference should be made to the training of 22 participants from 13 countries in genetic improvement for milk production in tropical regions; training of six group leaders for the swine project for campesino women; the integration of a technological model for swine production, based on the country's food resources; the revision and promotion of the project to develop livestock production in the northern part of the country; training for functionaries and technical experts from national agencies on methodologies and ideas for animal production projects and the promotion of new research activities, including multi-purpose cattle and goats, with a systems approach.

In general, these actions paved the way for the continuation of this Project in 1985.

In *Mexico*, efforts continued with the technical aspects of genetic improvement of Central American dairy criollo cattle and the selection of bulls for the exportation of frozen sperm to *Canada.* Very specific tasks were undertaken, including the selection of young bulls, training for sperm collection and quality analysis in laboratories (motility and concentration), for subsequent freezing and shipping to *Canada*, where the calf production phase will be initiated for sale to *Venezuela.*

Experiments with frozen semen for artificial insemination in milch cows of the Central American dairy criollo breed were extremely successful and aided in the evaluation of fertility levels, in the CAMPA hacienda, in Tampico, *Mexico.* The experiment produced a substantial number of gestating cows by the end of the insemination period.

The significance of these actions were felt once the concrete technical bases were established, apart from the infrastructure

already installed in diverse locations in *Mexico,* to formulate a Multinational Project for the Genetic Improvement of criollo cattle, which involved the participation of *Mexico, Venezuela, Canada, Costa Rica* and the *Dominican Republic.* The approach to be used is geared toward increased milk production and other related goals, such as hybrid vigor, lactation periods and forage production. This multinational project will respond to the interest displayed by these countries on this important subject and could benefit other countries as well. For these reasons, it is hoped that the formulation and implementation of this project will materialize.

Area 2 – Caribbean

In *Dominica,* the Program conducted extensive activities in the area of improved production and productivity for small-scale farmers. The outcome was the project "Supporting small farmer sheep production in *Dominica",* proposed for 1985, which addresses a national priority.

However, the Program was equally concerned with three other tasks, including the formulation of a project to improve milk production, more extensive in nature than the previous one, designed to secure external financing for its implementation, with technical support from the Caribbean Research and Development Institute (CARDI), in *Barbados,* through a national seminar on sheep production technology to benefit selected extension agents and producers.

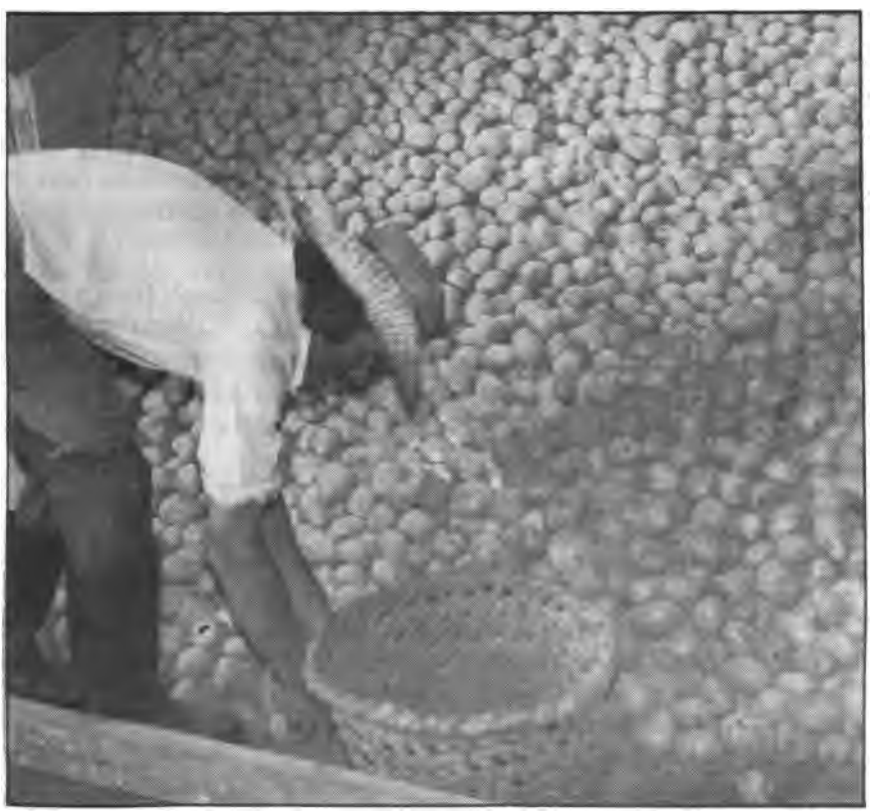
Action in *Guyana* to improve milk, animal and fruit production systems achieved the desired results, namely two projects referred to as "Improving dairy production systems for small farmers from the Crabwood Creek and East Berbice areas" and "Small farmer production project", which are in keeping with an agreement with sectoral authorities and national priorities.

The Project which focused on livestock had a widespread effect on small farmers, technicians and the very government. Both producers and participating institutions proved willing to invest resources in the establishment of milk production units, using the technology made available to producers by the Project. In fact, one of the project activities was concerned with the introduction and testing of appropriate technology for small farmers, based on the creation and opera-

tion of demonstration units for commercial purposes and of demonstration and training centers for technicians and producers. In 1984, the St. Stanislau Dairy Demonstration Unit, which will be expanding into eight new units with different locations, developed its operations. Said efforts were complemented by the creation of forage production units for the distribution of plants and seeds to producers.

Other important Project activities included the characterization of current milk production systems in the two areas selected and the training of technicians and producers.

Results obtained this year reflected the national support of and interest in the project, apart from the fact that the strategy designed



The aggregate value of the agricultural sector's contribution to GDP dropped from 14.8 percent for 1961-1970, to 11.5 percent for 1971-1980, and to 10.9 percent for 1981-1983.

was tailored to meet the needs in this field. For example, short courses were conducted to provide preliminary training for 136 producers and 22 national technicians, and 150 producers and technical personnel participated in field trips to the Unit set up in St. Stanislau. All of the foregoing was complemented by the technical information pamphlets which were widely distributed.

The Project concerned with agriculture had a similar effect, thanks to the resolute support of the Government, principally the Extension and Education Division of the Ministry of Agriculture. The initial results in the two areas selected, Whim and Crabwood Creek, included an increase in the area cultivated and the yields obtained and a reduction in production costs. Some of the crops considered in the Project were sweet potato, plantains, pulses, tomatoes, yams, watermelon and, as a special item, citrus fruits.

The strategies designed for the creation of demonstration units, field trips, short courses, technical meetings, seminars and workshops led to the realization of events in keeping with the reality of the country, and capable of meeting the need to train both farmers and local technical personnel who will be following up on the actions scheduled.

The project aims at improving production through the introduction and adaptation of improved technology, training of human resources and strengthening of institutions providing support services to producers, particularly as regards inputs, credit and marketing. The outcome will undoubtedly benefit the country as a whole.

In *Haiti* the interphase project for swine repopulation made significant progress in its different components, which included the importation of 500 swine, a quarantine center for imported animals, the production and distribution of suckling pigs, the construction of 150 secondary reproduction centers and 200 styes in each of the centers, in addition to training for personnel running the multiplication centers and the hiring of technical personnel and assistants. In all, the actions carried out and the results obtained thereform generally exceeded the anticipated results. The project encountered difficulties at the start; however, it advanced substantially in 1984 and benefited development actions, which the steadfast support of other participating organizations such as AID and the Haitian American Meat Production Co. (HAMPCO).

In *Suriname,* within the framework of actions to upgrade milk production systems, strengthening of the institutional structure of the animal production program gave rise to the project "Strengthening the Animal Health and Production Division of the Ministry of Agriculture in order to respond to the needs of the dairy development in Suriname," which was agreed upon with national authorities based on the country's needs. Actions were first launched in 1984 and hopefully they will be fully operational in 1985.

Program VI was also active in *Trinidad and Tobago,* where it provided assistance in the rehabilitation of cacao production and produced a base document for the project, which included the following components: a) the development of a mechanized weed control system; b) a mechanized system to apply agrochemicals to control the black pod problem in cacao, and c) a mechanized system for harvesting, collecting and breaking cacao pods.

Area 3 – Andean

The Program in *Bolivia* was concerned with integrated development projects in the highlands, the tropics and the inter-Andean valleys. Despite differences in the development of the three projects, due largely to the general progress made in each specific project, there appeared to be great similarity in their principal components. The first to be implemented was the project in the inter-Andean valleys, followed by the project in the highlands and the project in the tropics.

The Valleys Project expanded its initial field of action considerably, from the Valle de Pocona to others southeast of Cochabamba. Accordingly, it increased its number of beneficiaries. Major actions and achievements in 1984 entailed:

a. Preparation of an Operative Managerial Manual to regulate and standardize Project action and establish a new plan of action;

b. Preparation of technical coefficients and production costs for major valley crops: potatoes, corn, wheat, barley and broadbean;

c. Training for local technicians in project formulation (2) and implementation (7), and disease and pest control (50);

d. Support in securing the external funding required for the expansion phase of the project, principally with the IDB, PL-480, the Central Bank and intermediate banks;

e. Continued technical support for the initial and expanded phases of the project. Several irrigation systems were introduced (potatoes, corn, wheat, barley, broadbeans and apricots) in the Pocona area. Experiments were conducted with these same systems in the Valle de Aiquile, however, this time with dry farming crops (corn, wheat and barley).

Other project actions in the valleys included increasing the area destined for seed production. This will facilitate expansion of the planting area in the next agricultural cycle, particularly for wheat, potatoes and corn, and the publication and dissemination of results and work methodologies.

The number of farmers benefiting from this project continued to be irregular (maximum of 600), depending on the project's operative conditions (availability of credit and inputs); the organization of farmers into associations and cooperatives was also promoted.

Major action in the Highlands Project for 1984 aimed at supporting negotiations for securing external funding to expand the field of action. In this connection, 81 additional farmers will benefit from the assistance made available by the Central Bank. Along these same lines, the program aided in the formulation of new projects, both for the financing of recent agricultural cycles and the construction of the infrastructure required for the storage of agricultural products. These projects were submitted to the AID, PL-480, IDB, the Central Bank of Bolivia and private banks.

The Project's other areas of concern included research and training. As far as research is concerned, contacts were continued with the Chinoli Experimental Station of the Bolivian Institute of Agricultural Technology (IBTA), whose direct technical support to the farmers benefiting therefrom will prove extremely valuable in all stages of production. Training needs were identified, based on a seminar-workshop for 60 technicians which will serve as a framework for a future training program.

The Tropics Project is relatively new and actions have been centered on supporting the organization and operation of the Execu-

tive Committee of the Integrated Agricultural Development Project (PDAI), formulation of guidelines which govern its operations, the selection of areas which define the scope of the project in its initial stage, and the selection of beneficiaries.

The actions carried out as part of the *Venezuelan* project "Supporting milk and beef production", reflected on the technical capacity and expertise of the specialist in charge. Breed herd selection designed to raise production levels and coordination efforts with MAC-FONAIAP ensured future application and the possibility of serving as the foundation for a research project to study the improvement of dairy cattle, through a program for crossbreeding Holstein and Criollo, which will feature *Canadian, Mexican, Costa Rican* and *Venezuelan* participation. Actions carried out in this same field in *Mexico* were also related to this prospective program.

The progress achieved in the project suggested that in terms of research on and improvement of the Criollo breed there is already sufficient data to proceed with rigorous breed herd selection. The demand for frozen semen was higher than expected. This should allow for greater project dissemination at the cattle-producer level and, at the same time, call for redoubled support actions for training instructors and specialists from the Agricultural Credit Fund and the National Agricultural Research Fund (FONAIAP), institutions participating in the Project.

Area 4 – Southern

In *Brazil*, the Program developed three projects: Technical cooperation in the implementation of a rubber program (PROBOR), Cooperating on the Agroenergy Program of the Ministry of Agriculture and Multinational Cooperation in Agroenergy.

Actions carried out in 1984 were aimed at expanding the PROBOR rubber program, improving the efficiency of the entities which provide the inputs required for the implementation of PROBOR, improving the supply of consumer goods for rubber plantation workers (*seringueiros*), strengthening *seringueiro* associations and increasing the level of member participation.

One of the project's major achievements included efficient coordination of the implementation of the ribbed smoked sheet system in the states of Amazonas, Para, Rondonia and Bahia, through the

creation of a network a small demonstration plants in Rondonia and medium-scale processing units (150 tons/year) in Bahia. At the same time, the mechanism for making provisions available to *seringueiros* in Acre and Amazonas was expanded on and 6 new storage units were constructed.

A program for participatory education was introduced in areas featuring large numbers of *seringueiro* associations, which resulted in better use of schoolhouse facilities, as reflected in the rise in attendance of students and teachers.

The Program was also responsible for creating different projects to promote ribbed smoked sheet production, and a document on the experience of organizing independent *seringueiros*, as well as leaflets, posters and radio broadcasts within the campaign to save the country's rubber plantations.

In brief, the results of the Project were extremely positive, as reflected in the increase in the number of PROBOR beneficiaries who, in 1984, totalled close to 5 000; the number of *seringueiro*

IICA promotes exchange efforts in the region which could serve to alleviate the current crisis. Seed selection in Honduras.

associations, which exceeded 60 and involved approximately 1 100 families; the number of schools run by the Superintendancy of Borracha (SUDHEVEA) using the participatory education approach, which neared a total of 60; and the implementation of 150 small plants installed by the *seringueiros* themselves.

Likewise, support actions for the Agroenergy Program of the Ministry of Agriculture fulfilled program objectives with utmost efficiency, as witnessed by the diversity of the subject matters covered. This allowed for the procurement of sufficient funds for its implementation. This support was particularly significant in the development of crops to complement sugar cane production destined for the manufacture of alcohol; the production of oleiferous forests and agricultural residues as potential sources of energy; biodigestors; rationalized use of commercial energy in the rural sector and alternative energy sources (draft animals).

The most salient activities included the evaluation of the micro-distilleries established by the Ministry of Agriculture, the draft animal and biodigestor project, the implementation of the national vegetable oil program, particularly palm oil, and the installation of a small palm oil plant in Bahia. Lastly, of utmost importance was the continued promotion of actions carried out by producers associations.

The Multinational Agroenergy Project consolidated its action in five priority areas: evaluation of agroenergy potential; research on the potential of rural energy sources; exploitation of "energy-producing" forests; alcohol fuel and integrated agroenergy systems.

The most outstanding achievements of 1984 included the formulation of a methodological guide for the evaluation of agroenergy potential in participating countries, conducted jointly with the Latin American Energy Organization (OLADE), and the preparation of a book entitled **Latin American Experiences and Perspectives on Alcohol Fuel.**

A project profile for research on the potential of rural energy was prepared for external funding. On the subject of forests as a source of energy, technical assistance was provided in the form of counselling to the Directorate for New and Renewable Energy Resources and the National Forest Institute (INAFOR) in *Guatemala,* for the preparation of a draft proposal to the National Forest

Energy Program. Activities concerned with alcohol fuel were focused on the publication of the **Handbook on Experiences and Perspectives in Latin America,** the identification of cooperation needs in *Bolivia, Costa Rica, El Salvador, Honduras, Guatemala, Peru, Paraguay* and *Uruguay,* as well as the launching of support actions to aid *Uruguay* in the formulation of a national program in this domain.

Concerning Integrated Agroenergy Systems, an exchange program with *Brazil* permitted professionals from the Faculties of the University of San Carlos (*Guatemala*) and the University of Maracay (*Venezuela*) to study the possibilities of introducing integrated food and energy systems for investigatory and teaching purposes.

program VII

Agricultural Marketing and Agroindustry

Introduction

Many different factors are affecting the agricultural marketing system in this hemisphere. They include those listed below:

a. Socio-economic conditions

The rapid pace of demographic growth has become a universal trend and a source of many kinds of problems in Latin American nations and other developing countries. As a result of the three percent demographic growth rate which has been recorded in many of these countries, the population can be expected to double in 24 years. At the same time, large groups have been migrating from rural zones toward urban centers at increasing rates, and many cities in Latin America are growing at a rate of five to seven percent per year. Both trends exert heavy pressure on food marketing systems.

Most Latin American countries continue to have relatively high concentrations of wealth and income. Low-income groups, which make up the bulk of the population, have been found in urban centers to spend from fifty to seventy percent of their total income on food alone. Unemployment tends to be high (ten to thirty percent), and employment opportunities are limited by cultural and institutional factors. As a result, the demand for goods and services tends to be limited, markets are tight, and human and natural resources are underused.

Production and distribution costs for food and non-food items are high, due largely to traditional production methods, high-cost inputs which, in turn, introduce a high level of risk and uncertainty, and inefficient marketing systems. All these factors combine to place continuous upward pressure on the prices paid by urban and rural consumers, who often have little available income. At the same time, the income of small-scale farmers and agricultural workers continues to be low.

b. Relative marketing conditions

Production of many basic food items continues to be non-specialized, with the exception of traditional export items. This has several implications: 1) farmers are not specialized in producing those crops which are best suited to climatic and soil conditions; 2) storage processes for market surplus are complex and costly; 3) the marketable surplus from particular zones is often small enough to be handled by a single intermediary, but this limited volume hinders the provision of specialized marketing services; 4) the volume of production going to market is often too small to attract participation by many merchants, and therefore local market structures are frequently characterized by monopsony or oligopsony.

Wholesale and retail food distributors tend to be overspecialized, dealing with a relatively small number of products. They adopt this strategy in response to problems of limited product volume, lack of market information, the need to inspect supplies personally, no routine procedures for obtaining supplies, and the risks and uncertainty typical of their marketing channels. Intermediaries reason that they should deal with a small range of products in order to operate more effectively in their complicated markets. This means

that retailers and consumers face additional costs; as they need to visit several specialized suppliers in order to acquire the product selection they seek.

The very nature of present marketing channels makes it difficult for individual producers and intermediaries to establish modern procedures for product acquisition and sale. Under such conditions, change is resisted and the percent of losses recorded by commercial farms is high. Traditional administrative practices and strategies continue to be preserved. Rarely are such innovations as proper classification, handling and packaging systems adopted, either because individual companies acting alone are not in a position to reap the potential benefits that will make adoption profitable, or simply because they are afraid of failure. Case studies suggest that technological innovations will be adopted if the marketing channel for a particular product includes a dynamic, heavily financed participant, such as a cooperative, a wholesaler, a retailer or an agro-industry.

Prevailing marketing structures and practices tend to encourage high transaction costs. The lack of a uniform system of weights and measures restricts the flow of useful information, and this forces merchants to inspect each lot of merchandise individually. As a result, commercial firms are unable to establish routine purchasing and sales systems in their businesses, which would save time and money.

Physical handling also continues to pose high costs, as small lots of merchandise need to be negotiated, handled and shipped individually throughout the entire marketing system. This high handling cost also derives from inefficient work patterns, poorly coordinated transportation, inefficient inventory management, poorly designed and managed market facilities, inappropriate packing methods, and high levels of pilferage and loss. All these unfavorable factors tend to perpetuate themselves in the system, in the absence of trained marketing experts to carry out relevant studies and contribute innovative ideas, so necessary for changing commercial practices and reducing costs.

Economic activities lack dynamism, innovation and true competition. It can be stated in general terms that the structural conditions do exist for competitive markets. Many individuals and firms are

truly competing. Intermediaries often earn limited profits, and there are no major barriers to market entry. Nevertheless, these competitive pressures have failed to improve market efficiency or to promote the adoption of improved administrative practices in surviving commercial firms. Instead, the trend is toward increasing conservatism among merchants.

c. Government factors

Most Latin American governments tend to view marketing companies and individuals as a necessary evil. Because of this attitude, they are little inclined to provide consulting services or support to people or companies involved in commercial activities. Legislation and official programs in the marketing field are established with a view to "regulating" intermediaries, and not trying to improve their methods through training, technical assistance or economic incentives.

Most of the countries have a notable lack of programs to increase marketing system efficiency. Where such programs do exist, they are poorly structured or administered. They usually limit their activities to price and market information, regulation of uniform weights and measures systems, training, and regulations to facilitate marketing processes.

Credit available from public sector agencies is generally channeled toward production activities *per se*, both agricultural and industrial. Companies engaged in marketing find that they are obliged to finance operations using their own capital, extra-bank credit or, in some cases, residual resources from bank credits. The more innovative commercial firms therefore encounter serious difficulties in obtaining the capital they need to improve their performance. While marketing is not an activity requiring substantial capital investment, marketing enterprises that would like to provide efficient services generally need short-term credit to finance additional inventory and medium-term credit to acquire equipment and facilities.

Most Latin American governments still tend to have shortages of qualified personnel in the marketing field. National and multinational private enterprises in these countries are sometimes the only source of trained marketing personnel. In general, the focus of their studies is exclusively on profit maximization for their companies.

The few qualified people working for public agencies, on the other hand, generally favor macroeconomic issues or economic policy problems. These two factors combine to explain why government policy frequently fails to take account of the problems and possible opportunities for the firm.

There is also a common trend to place excessive emphasis on the construction of physical marketing facilities. This is due in part to the political view that taxes must be invested in visible, durable undertakings. Unfortunately, this bias is reinforced by certain unfinished projects which frequently are a result of pressures to build modern facilities, with to concern for necessary complementary conditions.

Project design is usually based almost entirely on a macroeconomic market analysis, with no consideration for relative figures on present and projected demand, regional production levels, regional surplus and deficits, imports and exports, regional price differences, and other similar statistics. Little thought is given to the characteristics and problems of the marketing organizations responsible for product handling and their need for and ability to use planned facilities, background information on producer use of similar warehouses, or access to competent private or government institutions and adequate personnel to take responsibility for administering the new facilities.

These trends exist in many countries and provide the context in which IICA is carrying out its Program VII activities. The actions described below took place during 1984.

ACTION IN THE COUNTRIES

Technical cooperation projects and short-term actions in various countries provided the Program with a means to continue supporting national, subregional and regional marketing and industrialization systems for agricultural products. The purpose has been to stabilize supply and demand with acceptable prices for producers and consumers. Efforts have been made to promote food security, the development of supply systems, the promotion of exports, and new systems that will help improve the efficiency of intra- and interregional trade in agricultural products and imports. The Program also encouraged the gradual development of the agricultural sector by facilitating product marketing.

Area 1 – Central

The Project in *Honduras* promoted institutional support and the development of agricultural export promotion strategies. In this effort, it worked with the Departments of Export Promotion and of Commercial Information, under the General Office of External Trade and the Marketing Department of the National Agrarian Institute (INA). Activities were conducted in the areas of market research, organization of information services, formation of export collectives, and enhancement of export opportunities.

Actions concentrated on the acquisition of external market information, training, workshop design, assistance in the formation of associations, and preparation of an export manual. Many contributions were made to the organization and improvement of material stored in the information centers of the General Office of External Trade, the Central Bank of *Honduras,* and five other agricultural and producer information centers for projects and exports in the country. The agricultural and producer sector received support in organizing the Federation of *Honduran* Agricultural Producers and Exporters. Over ten producer associations joined the new federation, and the agroindustry and trade information dissemination system was improved.

The project in *Mexico* supported the Secretariat of Agriculture and Water Resources (SARH) in developing and implementing agricultural marketing policies. Two basic activities took place: cooperation in formulating and implementing the technical assistance program for marketing, and interinstitutional coordination in marketing programs.

Achievements during the year included: technical cooperation with SARH in coordination, training, market information, producer organization and organization of storage centers, an activity in which the IICA National Office in *Mexico* has been providing firm support. The Government of *Mexico* established a national supply system in 1984 for grains, meat, fruit, vegetables, fish and sea food. As part of its project, IICA participated on behalf of SARH in preparing and reviewing the system's key documents, such as the draft bill for establishing the system, and training and studies on the prospects for alternative market locations in the 32 states across the country.

Nicaragua was the site of a project for establishing an information system for food marketing. Efforts were made to work with the

Ministry of Trade and Industry (MICOIN) in establishing a technical foundation to increase the efficiency of the domestic market for basic agricultural commodities. Activities included compilation of information for the development, negotiation and conceptualization of technical standards, storage organization and control, and training.

The Program made considerable progress in 1984 with the studies on consumption, wholesale stocks, demand, and the establishment of methods for calculating the coverage zones for storage centers, as well as supply indicators. The following was achieved: a. diagnosis of

Employment in the agricultural sector constitutes an important means of generating new sources of employment. The Atlantic slope in Costa Rica.

the Office of Commercial Licenses, evaluation and redesign of the operating framework for the trade registry; b. application of the new methodology in the city of Managua; c. determination of the coverage of the Leon storage center, and preparation of a producers' registry; d. analysis of storage centers and formation of a working group of technical staff from the National Bank of Development and General Warehouses, and e. evaluation of a proposal to construct a refrigeration network for vegetables and meat in *Nicaragua.*

The project in the *Dominican Republic* worked to consolidate marketing services. Three major activities were carried out: formulation of marketing projects, reinforcement of marketing extension, and reinforcement of marketing planning.

Several short-term actions were also launched. Of special note were the feasibility studies to reinforce the traditional marketing system, focusing on: a. a project profile to remodel two public markets in Santo Domingo; b. a study profile to idenfity projects and reinforce the food system in the National District; c. a census of the entry and exit of agricultural products in the city of Santo Domingo; d. a geographic and demographic study in the *Dominican Republic,* with emphasis on Santo Domingo; e. a bibliographic review on rice; f. publication of the final report on the implementation of four studies funded by the Dominican Preinvestment Fund; g. a study of food supply and demand for the basic family basket;h. a geographic and demographic analysis of the city of Santo Domingo; i. a study of the present administration of public markets in Santo Domingo and j. a study for the implementation of the project for unhulled rice storage by small-scale farmers.

Area 2 – Caribbean

Program actions in the Caribbean revolved around workshops and seminars developed as a result of the Caribbean Basin Initiative (CBI), especially in the areas of marketing and exporting of agricultural products. In light of this, the Institute promoted activities to define marketing projects in the countries and, from the National Office in Barbados, initiated a study to determine production and export areas which could be developed through the CBI in the future. The most promising sector during 1984 dealt with project components working on the transfer of technology for the production of foodstuffs, the development of Caribbean fruit crops and marketing standards.

Area 3 – Andean

The project in *Colombia* worked to promote and develop agroindustry through training activities, support for the campesino agroindustry program, and a study of investment possibilities in agroindustrial projects.

The year was highlighted by the following achievements: a. Training for personnel in the public and private sectors in agroindustry principles and processes; b. training for personnel from the public and private sectors on evaluation of agroindustry projects; c. revision and reprinting of "Agroindustry in Colombia;" d. a proposed campesino agroindustry plan of action for the Central American Agrarian Reform Institute (INCORA); e. preparation of profiles on agroindustry potential for agricultural products, and f. courses on agroindustry, held in Bogota, Bucaramanga, Medellin and Ibague.

Another project in *Colombia* supported the DRI-PAN Marketing Program, and strengthened the guidance capabilities of the agricultural marketing component. Activities included a diagnosis of the food distribution system and studies of the terminal market structure and market flow for foodstuffs in Bogota.

Achievements in 1984 included: a. a bibliographic review on food consumption and distribution; b. field visits to zones under study; c. design and testing of questionnaires; d. sampling design; e. development of 719 consumer surveys, 157 retailer and 80 wholesale surveys; f. coding and criticism of questionnaires; g. development of research methods on wholesale market structure; h. generation of computer programs, review and processing of data on market flows and structures (45 programs), food consumption and distribution; i. criticism and coding of surveys, and computer sorting of data collected; j. report on food consumption and distribution in the cities of Cartagena and Barranquilla; k. analysis of primary data compiled in 40 000 questionnaires in Bogota stores and 250 questionnaires in the CORABASTOS wholesale center; l. preparation of a report on CORABASTOS studies, and m. lectures on marketing and market research for DRI-PAN staff members.

The project in *Venezuela* initially supported the marketing subsystem of the Agricultural Marketing Agency in planning, training and promotion of food security. IICA then provided technical coope-

ration to the Agricultural Credit Fund in the areas of marketing and agroindustry, operational programming and information and statistical services. Support activities achieved the following results: a. computerized model for investment project evaluation; credit instructions for integrated agricultural projects, and support for planning managers in the preparation of contributions to the country's Plan VII for agroindustrial and marketing credit.

A project was designed for implementation in 1985, based on the provisions of the agreement, letters of understanding and negotiations. It will include three basic activities: an information and statistical system, technical training, and operating plans.

Area 4 – Southern

The project in *Chile* developed technical marketing cooperation both with cooperatives and the Ministry of Agriculture (MINAGRI). It was able to define and implement a strategy for agricultural product markets and for export promotion. Major activities in 1984 were: a. training, promotion of in-service training, visits to cooperatives in Chile and other countries; b. implementation of a marketing strategy by promoting seminars and consulting services, and c. analysis of export potential based on a program for parity prices and market implementation.

Specific achievements included: a. in-service training for technical staff and directors of cooperatives in grain marketing and silo management; b. compilation of information on systems for grain classification, characterization and storage; c. training in grain management and silo administration; d. course on cooperative management in La Leonera; e. field visits by technical personnel from the Foreign Trade Office, and training for directors of the National Confederation of Agricultural Cooperatives (COPAGRO) in several markets of *Brazil;* f. training visits and technical contacts with specialists in the field of external marketing, wholesale markets and agricultural commodity exchanges, and price information; g. technical support for studies on the marketing prospects for *Chilean* avocado in Europe and *Argentina;* h. technical visits to several cooperatives to establish a cooperative marketing organization; i. seminars on marketing and wool and lamb exports in Punta Arenas, Puerto Natales and Porvenir; j. evaluation of purchasing power of COPAGRO for wheat, rice and corn; k. support of COPAGRO in

improving its grain storage and marketing structure; l. consulting services in the development of a computer system for associative cooperatives, and m. seminar on marketing strategies for COPAGRO with the participation of the Confederation's national directors.

The population of the region rose from 208 million inhabitants in 1960, to 340 million in 1980 and 364 million in 1983; by 1984, it surpassed 400 million.

The project in *Paraguay* supported efforts to reinforce the institutional subsystem for agricultural marketing. Emphasis was placed on: a. technical assistance in designing a National Marketing Plan; b. promotion of a seminar on marketing strategies; c. implementation of an agricultural market information system; d. support for agricultural export programs, and e. implementation of a marketing strategy for small-scale farmers.

In 1984, with the cooperation of the Department of Technical Dissemination and Assistance for Agricultural Marketing and Economics, support action and services were made available to other organizations. These included institutional reinforcement of the Department of Agricultural Economics in three working units: price analysis, product analysis and project identification and formulation.

Achievements in 1984 included: a. the creation of a mechanism for integrating the agricultural public sector and the industrial and commercial public sector; b. exploration of the feasibility of establishing an agricultural statistics service; c. technical support for the farmer market information service, to expand coverage; d. the supply of methodological tools for the supervised export program and staff training in market promotion and information; e. technical cooperation and promotion of a national marketing plan; f. the national seminar on agricultural marketing strategy, and g. support for the production forecast service.

In *Uruguay* the project sought to actively promote and diversify agricultural exports. This was the objective of two basic activities: a. technical cooperation to design agricultural marketing subsystems to improve the terms of trade of the country and the position of small- and medium-scale producers in the market; b. support in developing production and marketing projects for producer associations.

The Program cooperated with the Ministry of Agriculture and Production to achieve the following in 1984: a. feasibility reports on exportation of a number of products, and parity on the domestic market; b. study of the present status of farm product marketing; c. analysis of indicators, for the agricultural census, of major crops; d. institutional organization of CALFORU, CALAGUA, CALVINOR and CALPICA cooperatives, to implement IDB projects for crop diversification and rural development in northern *Uruguay;* e. support for the preparation of an institutional diagnostic study to improve the management of the farm product marketing system, and

f. marketing training through internal seminars and observation visits, and courses abroad, for national technical staff participating in the project.

The Hemispheric Food Security Project provided a framework for identifying and structuring methods to diagnose food security problems. The resulting document was made available to IICA offices in the member countries.

The Program in *Bolivia* completed a diagnostic study of the food security problem, using IICA's methods, and defining a project profile. In *Peru* the phase of interinstitutional organization of the system was completed, and logistical support was provided to commissions for diagnosis, supply and consumption. In the *Dominican Republic,* a strategy was designed for applying the food security approach in the country. In *Mexico*, the possibility of supporting the *Central American* area through the Regional Council for Agricultural Cooperation in *Central America, Panama* and the *Dominican Republic* (CORECA) in the creation of a regional food security system was analyzed and explored with the competent authorities.

The Program worked in conjunction with the Hemispheric Numerical Information System for Agricultural Development to complete an analysis of indicators on population, consumption, production, yield, export and import, using information from the prototypical countries and the most representative foodstuffs. This led to an analytical proposal on the food situation in its member countries, which IICA will be able to develop on an annual basis.

program VIII

Integrated Rural Development

Introduction

When compared to the other sectors of the economy, the agricultural sector in still the least productive. This condition is not only reflected in agricultural production levels measured in terms of contribution to GDP or per capita productivity or capital returns, but also in inadequate educational and sanitation facilities, public services, and the overall standard of living of rural dwellers.

In the more developed countries the decrease in the number of farm workers has been offset by an increase in technology, but in Latin America the decrease in the level of agricultural activity has not produced a corresponding increase in productivity. Consequently, the need to import foodstuffs continues, and is creating a growing need for foreign exchange, while the exportation of those products which enjoy a comparative advantage is

witnessing a downturn. Institutional deficiencies, insufficient operating funds, low organizational capability, low levels of education and difficult access to land and other inputs are the most important factors affecting the agricultural sector. These factors limit participation and reduce the options needed to reach desirable income levels.

As a result, the countries have turned to IICA and other specialized agencies to help them channel their efforts and optimize funds. IICA's Integrated Rural Development Program is concerned with helping the countries achieve their goals, especially through efforts to restructure agriculture, organize producers, manage associative forms of production, implement models for intersectoral cooperation and incorporate women, youth and rural families into the agricultural production process.

This Program played a key role in implementing actions for technical support and training, substantially improving the institutional structure of agencies responsible for integrated rural development, and training technical personnel responsible for implementing activities to ensure rural well-being and improve the general standard of living of rural dwellers in the hemisphere.

Analysis and diagnosis of the program's problem areas and prospects

A country's development depends on a national plan of action consisting of specific goals. This plan is based on a clear understanding of the country's needs and goals and it establishes the priorities and defines the programs vital to the development process.

These plans should reflect the national will and the determination of higher-level political authorities who are sensitive to public opinion. They should furthermore represent a realistic exchange of interests in the establishment of priorities and guidelines for action, and be formulated in a meaningful way, responding to the needs of public administration and the political sector.

The implementation of rural development projects is a political decision which must form a part of the central strategy of a country's national plans. These plans must be steadfastly implemented to ensure success.

A project can count on the support required from its inception through to the evaluation of the impact of its implementation when

it is the product of political interests manifest in the form of national plans.

The term "support" should be interpreted as the institutional willingness to ensure the implementation of actions previously agreed upon.

"Participation" should be viewed as an indispensable element ensuring implementation of actions. A project's success depends on planning and organizational capacity. Consequently, it is important to consider both the beneficiaries of the project and the specialists responsible for directing the scheduled activities.

The foregoing serves as a framework to guide governments and facilitate the process of reaching the necessary agreements with IICA, in addition to implementing the required technical cooperation.

The following is a list of some of the projects currently being carried out in the different countries, based on national priorities:

- "Support for Small Rural Farmers in Northeast *Brazil*";
- "Public Administration Subsystem for Integrated Rural Development" in *Ecuador;*
- "Strengthening of the Agricultural Credit Users Association" in *Paraguay*;
- "Support for the National Program for Youth and Student Cooperatives" in *Costa Rica*;
- "Training and Study Program on Agrarian Reform and Rural Development in the *Central American Isthmus* and the *Dominican Republic* (PRACA)", and
- "Technical Support for the Women and Rural Youth Program of the Secretariat for Natural Resources, the National Agrarian Institute and Farmer Federations" in *Honduras.*

These and other projects in Program VIII are actively seeking the solution to problem areas in Latin America and the Caribbean, in accordance with "IICA's General Policies":

- **Land tenure.** A high percentage (between 40 percent and 90 percent) of the farms in Latin America and the Caribbean are economically inefficient "minifundia". The problem is further exacerbated by the fact that vast amounts of arable land are concentrated in a small number of large landholdings. Over the course of the next decade, the problem of land tenure will continue to spark debates on the need to increase the productivity of these large farms and on the issue of equitable distribution of natural resources, production and income.

- **Poverty and rural marginalization.** The inability to benefit from economic and social progress continues to be a major problem for rural dwellers. This problem is compounded by the continual migration of these persons to urban centers to improve their standard of living.

- **Organization of producers.** Despite efforts to organize producers, there is still a predominance of small, isolated farmers unable to take full advantage of group services and economies of scale. Furthermore, political and operating problems reduce a public organization's ability to reach low-income rural dwellers. Consequently, there is pressing need to reduce rural marginalization and the high index of rural poverty; promote rural youth and women's participation and provide training for producers, especially associative groups in different occupations in touch with their country's reality, in the coming decade.

All of the countries experience problems that limit their capacity to develop. One of the major problems is the rural population, not only in absolute terms, but also with regard to its relationship to the urban population that benefits therefrom. For example, figures indicated that in the sixties one farmer produced enough for seven urban dwellers. However, by the nineties, the same farmer will be expected to produce for 11 urban dwellers. This diminishing ratio highlights the need to increase agricultural production.

The existence of minifundia and latifundia is symptomatic of unequal land distribution which results in an increased demand for: health care, housing, electricity, roads, and drinking water in the rural sector. These conditions, in turn, produce unilateral policies which further reduce the quality of life in the rural sector, and promote rural to urban migration.

The inadequate dissemination of successful models for integrated rural development limits the ability to make use of experiences that have proven useful in developing the rural sector in the countries. The foregoing underscores the importance of developing a realistic and systematized training program to ensure the application of inter-sectoral approaches to development.

In spite of these limitations, through the exchange of ideas and experience, attempts have been make to achieve regional integration, so as to concentrate efforts and increase comparative advantage. Accordingly, IICA's strategy is to develop important terms of reference for multinational cooperation, by promoting projects and techniques and participating in their design, implementation and follow-up.

During the course of the "International Year for Youth," IICA conducted a series of events in Argentina, Chile, Costa Rica and Panama, etc., concerned with rural youth in the region.

ACTION IN THE COUNTRIES

Area 1 — Central

The Technical Committee Meeting, the Board of Directors Meeting and the Eighteenth Executive Meeting on Agrarian Reform were organized as part of the project "Training Program on Agrarian Reform and Rural Development for the *Central American Isthmus* and the *Dominican Republic*" (PRACA). The Program succeeded in training 20 functionaries in a course on project development in *Guatemala;* six technicians received reciprocal training in *Honduras,* and a course on small projects in *Honduras* benefited 50 national technicians.

A project profile developed at this time will serve as the basis for requesting the funds needed to support the multinational level technical training courses on project development and administration.

The Project to Strengthen Management in Associative Cooperatives for Agricultural Production (FORGE), operating in *Costa Rica, Honduras, Nicaragua* and *Panama*, made substantial headway in the following activities:

In *Honduras,* assistance was provided to 124 campesino enterprises, and support activities were developed to strengthen administrative training activities, which benefited 99 specialists and campesino leaders. Training was provided to 35 technical instructors; 53 enterprise associates received methodological instructional training, and 27 instructors received a course on management techniques. Approximately 68 persons participated in a course on administrative techniques.

In *Costa Rica,* a financial and economic study was conducted on eleven cooperatives; a course on agriculture was offered to 16 cooperatives; eleven workshops were held on Cooperative Planning, and the work titled **Analysis of Rice Production Activities for 1983** was published. The Program also trained 17 national technicians in resource inventory and production planning.

In *Nicaragua*, a credit evaluation workshop was held for 10 cooperative members; instruments for debt control were published for 500

cooperatives; several regional training workshops were offered on Inventory and Debt Control, and were attended by 120 cooperatives members; 250 production plans were formulated and 1 200 manuals for cost control workshops were published. The development of a document for training in accounting procedures was also considered important and the National Planning Workshop trained 43 persons responsible for regional cooperative development.

In *Panama*, the Program's training course on Management of Associative Enterprises trained 27 members from 17 farm cooperatives. Approximately 60 campesinos were trained in: cooperative organization, formulation of agricultural projects, analysis of financial studies and budget controls and design. The Program also worked to a set up accounting systems in four cooperatives and train 240 campesinos in business management techniques. Actions also included taking inventory and drawing up balance sheets for different enterprises, and conducting a seminar/workshop on accounting techniques and project evaluation and administration for 20 technicians.

Hemispheric project action supported the Inter-American Secretariat for Rural Youth, which provided technical cooperation for the project "Support for the National Youth Cooperatives Program in *Costa Rica*". The necessary interinstitutional efforts were coordinated to begin preparations for the Eleventh Inter-American Conference on Rural Youth, as part of the festivities celebrating the International Year for Youth. An immediate link was promptly established with the Ibero-American Rural Youth Advisory Council, and support was provided to promote rural youth actions in *Argentina* and *Chile.* The Tenth Ibero-American Conference on Rural Youth was held in *Panama* in early 1984, and formal exchanges with the Latin American and Caribbean Youth Councils were established.

Area 2 – Caribbean

In *Jamaica,* support actions were provided for national programs to incorporate women and rural youth. A total of 93 instructors and 455 producers were involved in a training program on the financial aspects of running a small business. Data concerning production, planning and personnel management were also compiled for 68 instructors and 219 producers, and didactic material was produced for small business management-oriented teaching modules.

Area 3 – Andean

In *Peru,* the Program prepared documents for the implementation of an agricultural production system in Ancash and the incorporation of campesino women into the region's agricultural development process.

In *Venezuela,* a seminar-workshop on the management of agricultural extension programs was offered to support the ARDI-AROA Program. The workshop was attended by 81 technicians. A second seminar-workshop on Information Systems for Agricultural Development Programs and Projects was attended by 39 technicians.

In *Ecuador,* support was provided to develop investment plans for 12 cooperatives and 16 new Community Development projects. Financing will be provided by the Marginal Rural Development Fund (FODERUMA). To complement these efforts, a workshop on community development trained 56 national technicians and provided follow-up support to 21 projects.

The project "Technical cooperation for the integrated rural development program in *Ecuador"* worked to define an administrative financial system for Integrated Rural Development Projects (DRI); to design a methodology and implement operating mechanisms to set up a short-cycle crop program; to initiate the Small Livestock Program (fowl and goats), and to provide consulting services to develop programs on health, environmental protection and education. The Program also supported the development of marketing strategies for IRD projects in the Central Sierra; prepared documents for the Tres Postes, Cañas and Playas de Higueron projects; trained 27 national technicians assigned to Executing Units and offered a training course to support the Environmental Protection Program, which benefited 14 participants.

In *Colombia* and *Bolivia* the Program supported integrated rural development actions through the program "Planning and Management for Agricultural Development and Rural Well-being." Details are contained in the section on Program IX of this Report.

Area 4 – Southern

The following gamut of technical actions were conducted within the framework of the Project "Rural Women and Families" imple-

mented in *Brazil, Paraguay* and *Uruguay.* In *Paraguay,* training courses in participative planning were sponsored for teams of extensionists and home educators. In *Brazil,* eight case studies on rural Brazilian communities were conducted in cooperation with the "Northeastern Superintendancy of Development (SUDENE)" and a televised program on "Associative Enterprises" was produced. In *Brazil,* the Program also provided further support to the "Vale do São Francisco Development Corporation (CODEVASF)", to prepare 27 monitors on Home Food Production and Preservation, trained 45 extensionists in the organization of small producers and published a leaflet entitled "Water, a Widespread Problem", for use by extensionists in the continuing training program. The Program also worked on the proposal to integrate women and the rural family into the SUDENE Northeast Project.

Actions launched by PRACA and FORGE in 1984 had a sizable effect on training, small-scale projects, methodology and associative enterprises.

Other technical cooperation actions trained 25 teachers, who will be responsible for disseminating and reproducing the results of small projects. Extremely useful activities included the drafting and distribution of letters for rural community studies on: resources, housing, nutrition, health and clothing; training of eight specialists in a continuing education program for extensionists; training for 22 specialists in the use of videotape programs, and the publication and distribution of the pamphlet "The Economy of the Rural Family." In *Brazil,* the Program worked within the framework of the technical cooperation project with the Ministry of Agriculture to complete several documents on the organization of rural producers and the characterization of different categories of small rural producers. It worked to conclude the preparation of a five-year technical cooperation project with the National Secretariat for Agricultural Planning (SUPLAN), and collaborated with the Northeast Project.

The Project "Cooperation with the Government of the State of Ceara in the Implementation of PDRI-CEARA" continued with specific follow-up projects for associative production; evaluation of the implementation of the Associative Development Support Fund (FADA); training for 130 local technicians in a seminar on practices implemented in support of different types of associative organizations; training for 15 technicians in systematic reformulation of follow-up activities; training for 25 specialists at the State Group Meeting to Support the Organization of Rural Producers, and training for 32 technicians at the Seminar for Land Studies. This project was concluded in 1984.

Another project in *Brazil* provided support to the Government of Bahia to organize PDRI producers under the guidance of CAR, and to help design and implement development programs. The project also applied participative methodology adopted to meet the specific needs of the Sobradinho area and several communities were organized for irrigation purposes (53 families benefited). Several irrigation models were successfully systematized, and seven technicians were trained in small irrigation systems. The project concluded in 1984.

The project for cooperation with the State Government in Farm Organization for the Amazonas Integrated Rural Development Project consolidated significant advances by training 50 professionals in a course designed for technical specialists in the executing institu-

tions of the Operative Plan of the Amazonas DRI Project. It also provided support to determine policies and alternatives for regulation and use of agricultural areas affected by the project, taking into account necessary planning and management therefor. The project furthermore worked to prepare 12 higher-level technicians in physical planning and farm organization; trained 10 specialists in agrarian legislation, and provided ongoing training for eight others in micro- and macro-planning processes, as concerns the means of access to land tenure and the organization of associative enterprises.

In *Paraguay*, the project to strengthen Agricultural Credit Users Associations (AUCA) trained 22 technicians in Organization and Administration of AUCA, developed 535 credit and production plans and trained 56 functionaries in a course-workshop on agricultural technology. At the same time, the Program provided training for 29 specialists in Rural Administration and Farm Planning and determined the functions of agricultural credit and rehabilitation supervisors; trained 14 technicians in participative diagnostics; nine in cotton marketing; 45 AUCA members in two courses on cooperatives, and developed the project "Improving the productive capacity of small producers in the Colonel Oviedo District."

In *Uruguay*, the project "Regional Agricultural Development" produced a document "Status of the Agricultural Development Program in the Tacuarembo Area"; made preparations for participative diagnostics in the Cuchilla del Ombi Zone in Paso Baltazar; conducted demonstration experiments to support technical producers in the area; identified product and cash flow for potatoes, peanuts, corn and milk, and trained eight technicians in a seminar on Farm Budgets and their relation to productive projects.

program IX

Planning and Management for Agricultural Development and Rural Well-being

Introduction

IICA's Member States are faced with uncertainty, risk, social conflict, and a growing economic and financial crisis. These problems seriously compromise the possibility of meeting the agricultural and rural development objectives that these countries have set.

In view of this situation, some countries have acknowledged that, in order to meet their objectives to increase production, employment and income, improve the distribution thereof, eliminate or reduce rural poverty, etc., it no longer suffices to focus efforts exclusively on the isolated provision of certain services such as technology generation and transfer, marketing and credit.

In some countries the need for effective guidelines to nurture the development process has become increasingly clear. This calls for coordination of public sector ef-

forts with those of producers and other private sector agents, and the integration of the various actions taking place in the public sector. These coordination and integration processes are required to generate appropriate, consistent policies, and to promote actions that could translate these policies into the anticipated results through the more efficient use of available resources.

Progress made in implementing this Program clearly shows that one of the major obstacles to agricultural and rural development in the countries of the region is the limited ability of the pertinent institutions to effectively steer the development process.

The foregoing is compounded by the fact that efforts in the countries to reverse the situation have not produced the desired results, partly because remedial measures are only based on certain issues and fail to address the root of the problem. Another problem is that some of the most common solutions that have been implemented have been hampered by severe constraints.

Despite the situation confronting the countries in the region, increasing numbers of high-priority programs and projects are being implemented and funded; however, alarming figures appear every year on the underutilization of these funds. This is a source of great concern, not only because it affects targets for production and rural well-being, but because these funds derive from external loans, and exacerbate the already critical situation of indebtedness in the countries.

One "solution" which is increasingly found for managing these high-priority programs and projects is the establishment of "executing units." Funding organizations, concerned with sidestepping the restrictions of excessive bureaucracy, will not turn over loan money unless the implementation of programs and projects is placed in the hands of units created specially for this purpose. These units must begin by demonstrating that they meet the prerequisites required to receive expected disbursements. This, however, does not solve the problem. Quite the contrary, these new "executing units" have encountered severe difficulties in their working relations with existing bureaucracy, due not only to established norms and procedures, but also because of the special status assigned to these units, which generates a feeling of rejection and complicates guidance efforts.

This situation is particularly acute for the agricultural sector, because the new executing units are encountering constraints on their ability to carry out effectively the directive tasks which are required of the professionals responsible for them. These professionals, often distinguished for their achievements in this specialized aspect of agriculture, have generally not being trained for effectively directing, guiding or administering programs, projects or institutions. Therefore, they do not have the working tools they require to carry out their work effectively. Most of the high-priority programs or projects for the sector do not call for training efforts to resolve this shortcoming.

In several countries, planning continues to be viewed as the exclusive domain of planners, located in planning offices, who operate independent of project executors. They frequently fail to consider the full dimensions of groups with decision-making power and the characteristics, real needs and positions of those groups which would be affected by the measures they are proposing.

The above is closely related to the limited progress made in planning and management as disciplines. This is compounded by the lack of resources available to the various executive offices for applying these disciplines in non-traditional ways that will help them deal with situations of uncertainty and overcome present conflicts and crisis, and for initiating effective guidance processes for agricultural and rural development.

ACTION IN THE COUNTRIES

The process of reaching agreement with national authorities in 1984 and 1985 confirmed the validity of the problems as described above. As a result, IICA's technical cooperation actions under Program IX are oriented toward improving managerial effectiveness for guiding agricultural and rural development processes in specific fields.

Improvement of effective direction means that efficiency and effectiveness must be maximized in the design and ongoing adjustment of consistent, accepted policies which are socially and economically viable. These provide a framework for the allocation and mobilization of the efforts and resources required for translating policies into action that will improve production and rural well-being in the countries, regions, and local areas.

The agricultural sector as a whole is not the only working environment in which this task of reinforcing effective direction must take place. Rather, the situation in different countries may reflect a concrete need for units or institutions in the sector, directly responsible for implementing actions in agricultural regions, or through high-priority programs or projects.

In this context, it is important to acknowledge the need for coordinated action by public employees, technicians, professionals and farmers in carrying out the roles of decision-makers, implementers and advisors, if guidance is to be effective. This has become an essential condition for successfully dealing with situations of uncertainty, social confict, and economic and financial crisis.

These are the general guidelines which are being used for carrying out the general strategies of IICA, approved by the Inter-American Board of Agriculture. Efforts have been ongoing to develop a framework in which to concentrate Program IX activities, to maximize their impact with the limited resources available.

The year 1984 witnessed the implementation of 27 technical cooperation actions in 21 countries. These actions can be categorized into five groups, based on the framework of concurrence with governments.

The first group includes those actions which are oriented toward strengthening effective direction of institutions or units immediately responsible for carrying out actions in specific regions or areas, and through high-priority programs or projects. These actions placed special emphasis on horizontal links with other units, to improve the delivery of services to farmers. They also stress vertical linkages with farmers and high-level decision-makers. Seven technical cooperation actions are included in this group, and are taking place in *Bolivia, Brazil* (Bahia), *Colombia, Costa Rica,* the *Dominican Republic* and *Guatemala.* The multinational hemispheric project PROPLAN/A also figures within this group.

The second group includes actions designed to strengthen the effective direction of planning units or their equivalents in carrying out ongoing consulting services for decision-makers. The purpose is to guide the agricultural and rural development process effectively, and to support the implementation of high-priority programs, projects and actions for the agricultural sector. This group includes five

technical cooperation actions carried out in *Barbados, Mexico, Saint Lucia* and *Suriname.* It also includes the multinational project to support CORECA operations.

The third group includes actions designed to strengthen skills for formulating policies, plans, and programs in sectoral planning units. This group includes four technical cooperation actions carried out in *Brazil, Ecuador, El Salvador* and *Nicaragua.*

The fourth group includes actions to strengthen the analytical and decision-making capacity of individuals and groups involved in guiding the sectoral or regional development process, or in guiding programs, projects and institutions. These actions focused on training, dissemination and exchange of experiences and know-how through multinational courses and other types of professional meetings. The group also comprises the work carried out by another of the hemispheric multinational projects, PROPLAN.

Group five contains actions to support the study and solution of short-term problems facing agricultural sector institutions. Support is provided in the form of non-continuous, specific actions to design scientific solutions to problems and implement them over relatively short periods. This group includes ten technical cooperation actions in *Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guyana, Haiti, Honduras* and *Nicaragua.*

Approximately 50 percent of the funds expended by Program IX in 1984 were used for the first two groups, which include 12 of the 27 cooperation actions carried out during the year. These actions sought to strengthen effective direction in order to maximize the efficiency and effectiveness of guidance in the agricultural and rural development process. The difference between the two groups is that in the first the work focuses on units responsible for carrying out actions, while work in the second group centers on planning units. However, both cases attempt to establish close ties between the two types of units, among the various executing units, and between the executing units and the producers.

In previous years, IICA's efforts in these fields (formerly included under Line VII) were geared primarily toward actions in group three, and partly in group five. The change that has taken place reflects a clearer understanding of the problems of agricultural and rural development in the region, as a result of discussions with the countries

and examination of the outcome of past efforts to deal with these problems by providing solutions better suited to Latin America and the Caribbean.

Below is a summary of the actions for technical cooperation carried out within the framework of Program IX, by geographic area.

Area 1 – Central

Program IX actions in the Central Area were both multinational and national. All the countries in the area were included in a multinational project headquartered in the Office in *Costa Rica,* as well as five national projects and six national short-term actions. The national projects and short-term actions required ongoing program presence in all the countries of the area. Support was also provided to *Costa Rica, Guatemala, Mexico* and the *Dominican Republic,* through two hemispheric multinational projects under Program IX.

The multinational project for the Central Area, headquartered in *Costa Rica,* supported the operations of the Secretariat for Coordination of the Regional Council for Agricultural Cooperation in *Central America, Panama* and the *Dominican Republic* (CORECA), created in 1981, and progress was made as planned. The Evaluation Commission of CORECA, met in 1984, and recommended the integration of the Vice-Ministers of Agriculture into CORECA's Executive Committee. During the year, the Ministers of Agriculture from the CORECA countries and the Vice-Minister of Agriculture of *Nicaragua* visited five agencies and organizations for technical cooperation headquartered in Washington, D.C., to seek the funds needed to prepare and implement eight regional programs for agricultural development. Following this visit, the Intermanagerial Follow-up Group (GIS) was created, with IICA coordination.

CORECA held the V Meeting of Ministers of Agriculture in the *Dominican Republic.* An agreement was signed between SARH and IICA incorporating *Mexico* as a member of CORECA. During the course of the year, actions were taken to expand the coverage of the information system, and 23 missions for reciprocal technical cooperation were conducted, providing support for 68 national technicians. Five regional projects were prepared on: the eradication of the screwworm; food security; seed production, with emphasis on basic grains; reduction of post-harvest losses, and the exportation of fruits and vegetables to markets in the *United States* and *Canada.*

CORECA also launched efforts to undertake policy studies to develop a guidance framework for the identification and initiation of its projects and other activities, in order to implement those policies and thus a have a viable regional strategy.

The major action in *Costa Rica* was to support the management of the Program to Increase Agricultural Productivity (PIPA). This is the first of a number of high-priority programs of the Ministry of Agriculture and Livestock that will be reinforced through the project. Considerable progress was made in the design and testing of several general management tools for the program, such as index cards for farmers and ranchers, the code manual for beneficiaries, systematizing the team work of regional extension leaders, methods for the operating plan and for follow-up and evaluation. Progress was also made in designing and testing of integrated programming tools for field work in extension and research, and in guidelines for managing extension agency actions.

Training was provided in general areas of program management to 300 agricultural sector technicians. More intensive training was given to 20 specialists with executive responsibility for PIPA implementation, particularly in the use of tools that had been designed.

Additional efforts were launched with external resources in *Costa Rica,* through two short-term actions. The first took place through an agreement with the National Bank to train 75 credit agents in agricultural project evaluation at the farm level. This activity will be concluded when the third course is conducted during the first quarter of 1985. The other short-term action was based on an agreement signed in the last quarter of 1984 with the Ministry of Agriculture and Livestock, to support the preparation of an integrated management plan for the Parrita River Watershed, which will hopefully be completed by September of 1985.

The Program in *El Salvador* worked on the basis of two short-term actions. The first supported the planning units of the Ministry of Agriculture and Livestock under the Sectoral Office of Agricultural Planning in organizing and conducting courses to help these units carry out their duties. The second cooperated with the Mortgage Bank in organizing and conducting courses on the preparation and analysis of agricultural projects.

Work continued in *Guatemala* to carry out the project "Development of a Coordinated Action System for the Public Agricultural and Nutrition Sector (SPADA), for the Integrated Delivery of Farmer Services Based on Needs and Potential." This project made significant headway in developing and applying methods and tools for the coordinated guidance of the planning and implementation process at the area level. Program technical personnel helped to prepare an orienting framework for Region VI, with the participation of farmers, and technicians in extension, research, credit, marketing and forestry. Assistance was also provided in preparing a plan for the integrated implementation of SPADA action in the Region defining technology modules, production modules and production plans by crop at the farm level. Several actions were promoted to determine a mechanism for expanding available experience, and work was done in gradual training for national and regional directors and implementers in Region VI.

IICA's Program IX concluded that "one of the greatest obstacles to agriculture and rural development in the region is the limited institutional capacity for effectively steering the development process."

Support continued in *Honduras* to develop and strengthen the Small-scale Productive Project's program for agricultural enterprises, in the National Agrarian Institute (INA) and the Secretariat of Natural Resources (SRN). These actions were based on an agreement with the Higher Council of Economic Planning (CONSUPLANE), under which training was provided in the use of methods for preparing and evaluating small production projects. This training benefited 142 regional technicians from the SRN, INA, National Agricultural Development Bank, Honduran Forestry Development Agency, the Office of Cooperative Development, the National Institute of Professional Training, the National Social Welfare Board, and the Industrial Development Center.

The project in *Mexico* completed work initiated the past year in support of the Undersecretariat of Planning of the Secretariat of Agriculture and Water Resources (SARH) in the areas of: a. inventory of human resources in Program and Subprogram Planning Offices at the state level; b. a proposal for the implementation of an agricultural and forest data bank in state level offices, and c. a revision of state agricultural and forest development programs. At the same time training actions were carried out in group work methods with technicians from the Office of Plan Formulation of the Undersecretariat of Planning of SARH. Support was given to the Yucatan state planning program in the analysis and systematization of different planning tools for agricultural development, and in organizing a project inventory. Training actions began in data management and economic analysis to strengthen advisory services for decision-making.

The Program provided technical assistance in *Nicaragua* to the Division of Economic Policies of the General Economic Division of the Ministry of Agricultural Development and Agrarian Reform (MIDINRA). Efforts were focused on the revision, formulation and negotiation of agricultural policies in the context of work conducted by the National Production Commissions. Methods were developed for designing economic incentives for basic grain harvests. Training was provided for 20 technicians in this area. This framework for action was also used to sponsor reciprocal technical cooperation with technicians from *Mexico* in methods for setting price supports and for surveying typical production costs.

The short-term action carried out in *Panama* successfuly disseminated the instruments produced by the previous institutional

strengthening project, by training 18 agricultural sector technicians in the areas of identification, formulation and evaluation of agricultural projects. In addition, 34 technicians were trained in agricultural project management, and 15 technicians, in institutional, managerial and administrative analysis.

The Program was active in the *Dominican Republic* to promote actions for strengthening effective direction of the agricultural and forest sector at two levels. At the national level, support was provided in setting and implementing specific policies to promote agricultural production and strengthen coordination mechanisms for sectoral planning. Cooperation was provided in the Monte Plata zone for directors and technicians of the project to support small-scale producers (FIDA II) in reviewing the material developed by the project in the Peravia zone and in San Jose de Ocoa and Rancho Arriba. Work continued in Monte Plata to support the FIDA II project, with emphasis on project management, extension and marketing for integrated services delivery by the Secretariat of State for Agriculture, and including farmers on the basis of their needs and potential.

Area 2 – Caribbean

Program IX actions in the Caribbean Area were both multinational and national. IICA's technical presence made itself felt in six countries through a multinational project headquartered in the Office in *Barbados,* two national projects in the Offices in *Saint Lucia* and *Suriname,* and two short-term actions in the Offices in *Guyana* and *Haiti. Suriname* also received support through one of the Program's hemispheric multinational projects.

The Program IX multinational project for the Caribbean, headquartered in *Barbados,* help the agricultural sector institutions with the identification, formulation and implementation of agricultural and rural development policies, programs and projects.

This project progressed as scheduled, with technical support actions in: a) *Barbados,* to diagnose the fruit-growing subsector and prepare a fruit development program as a basis for designing a sectoral follow-up system; b) *Guyana,* to prepare the 1985-1989 Agricultural Development Plan, and c) *Saint Lucia,* to prepare a proposal for financing an agricultural census and sampling study.

The project also promoted training in: a) *Barbados,* in annual programming and follow-up of annual plans; b) *Suriname,* to organize, coordinate and conduct a course on agricultural project identification, preparation, analysis and administration, and c) *Trinidad and Tobago,* to hold a course with the University of West Indies (UWI) and determine high-priority policies and areas for action. The central component of this multinational project was to begin translating and generating materials adapted to the Caribbean in the different subject areas relevant to Program IX. The participation of other specialists in the area was coordinated for this purpose.

Program IX action in *Guyana* consisted of a short-term action through which IICA specialists headquartered in the Central Office, *Jamaica* and *Barbados* were sent to *Guyana* at the request of the government, to help design methods and support the organization and preparation of the 1985-1989 Agricultural Development Plan.

The project in *Saint Lucia* to establish an Agricultural Planning Unit supported the preparation of a proposal for operating this unit. Work also began with the Agricultural Extension and Research Unit in areas of annual programming and budgeting, and in designing a project inventory. Support seminars were organized for each of these actions, to discuss the different tools that would be used.

The Program in *Suriname* made progress in carrying out a diagnostic study of the agricultural planning system, which made it possible to identify the central factors with which the strengthening process can be guided. The findings of this diagnosis revealed a need to strengthen abilities for defining a sectoral investment program, as a first step toward guidance of the process. A four-week course was given on agricultural project identification, preparation, analysis and administration, and 32 technicians from four Eastern Caribbean countries were trained. IICA specialists from the Central Office, *Barbados, Ecuador, Jamaica* and *Paraguay* took part in this event. The course concluded with the preparation of a project profile for increasing milk production, and a proposal for the IDB to finance the corresponding feasibility study.

Area 3 — Andean

Program IX actions in this area took place in individual countries, as there was no multinational project in operation. Every country in this area was affected by virtue of three national projects headquar-

tered in the offices in *Bolivia, Colombia* and *Ecuador,* and two short-term actions headquartered in the offices in *Colombia* and *Ecuador.* In addition, *Colombia, Peru* and *Venezuela* received support in the form of two hemispheric multinational projects under this Program.

Work in *Bolivia* entailed a project supporting the direction of Executive Committees for the Integrated Agricultural Development Project in Cochabamba, Beni and Potosi. This project assisted in the development of a first draft of an integrated agricultural development model to guide each project. It also cooperated in national and regional discussions for orienting agricultural policy formulation at these levels and keeping priorities compatible. Initial efforts were made to design instruments for follow-up and evaluation of training projects and actions.

Support was provided in *Colombia* to the Agricultural Sectoral Planning Office (OPSA) of the Ministry of Agriculture, and to the Integrated Rural Development Program (PRI). The work with OPSA made headway in defining and applying instruments to systematize policies, in developing new methods for the preparation of sectoral medium-term plans, the annual operating program, priority-setting and selection for projects, and initial designs and testing of a follow-up and evaluation system for the Colombian Institute of Hydrology, Meteorology and Land Improvement (HIMAT).

The work conducted with DRI involved the design, testing and implementation of methods for diagnosis, regional and national orienting frameworks and medium-term district development plans, as well as production and marketing plans for agricultural products.

These methods were disseminated among other institutions, including the National Federation of Coffee Producers, the Colombian Agrarian Reform Institute (INCORA) and the Colombian Agricultural Institute (ICA), and were applied in courses for the National Agricultural Training Program (PNCA).

The Program in *Ecuador* was based on a project to strengthen the sectoral planning system. For this purpose, support was provided to the Sectoral Office of the Ministry of Agriculture and Livestock in designing and using agricultural policy analysis methods, and in training for project follow-up and control, under the responsibility of the agricultural public sector. The Program also cooperated with the

Pianning Unit of the Agricultural Research Institute (INIAP) in designing agricultural research strategies and in determining its advisory role for implementation. The project was completed in 1984.

A short-term action was carried out to provide advisory services to the Programming and Evaluation Division and to programming units of the different offices of the Ministry of Agriculture and Livestock, in reviewing their planning and evaluation tools.

Area 4 -- Southern

Program IX actions in this area took place at the national level only. They included a national project headquartered in the State of Bahia, *Brazil,* and two short-term actions in the Offices in Brasilia and *Chile.* Brazil received support under one of the Program's hemispheric multinational projects.

In the State of Bahia, *Brazil,* the Program cooperated with the Secretariat of Planning, Science and Technology (SEPLANTEC) to strengthen its technical training and its executing agencies in the preparation and implementation of rural development programs and in the area of generation and dissemination of technologies tailored to the needs of small-scale farmers. In the former case, work took place in projects for Jaguaquara, Jiquirica and the Western Region of Bahia, and in the irrigation program located near the Corrente River. In the latter case, evaluations were made of technical assistance provided by the integrated Rural Development Program (PDRI) in Irece, and consulting services were provided to the Northeastern Bahia PDRI.

A short-term action took place to continue supporting SUPLAN in carrying out studies, particularly on small-scale farmers, so that policies may be formulated for this sector. The Program also contributed to designing a project to strengthen the State Planning Commissions (CEPA), converting them into permanent advisory units with decision making power at the state level. They will be effective at the national level through an Executive Secretariat of the National Agricultural Planning System.

Support actions began in *Chile* with the Agricultural Planning Office (ODEPA) for developing a portfolio of agrarian projects for external financing, and identifying the Ministry's staff training requirements in the area of project preparation and analysis.

HEMISPHERIC TECHNICAL COOPERATION ACTIONS

These actions were carried out by the hemispheric component of PROPLAN Multinational Projects. The emphasis has been placed on strengthening the effective direction of public agricultural sector agencies at the regional and local levels. The objective is to coordinate action so that services can be delivered to producers in an integrated fashion, based on their needs and potential, and so that producers can participate actively in the analysis of this integrated service delivery and in suggesting alternative modes of channeling and implementing them.

PROPLAN also worked in individual countries through its country components in *Colombia, Costa Rica, Dominican Republic, Guatemala* and *Venezuela.* It has been working in these countries to strengthen effective direction of the Integrated Rural Development Programs (DRI) in *Colombia,* the Agricultural Productivity Expansion Program (PIPA) in *Costa Rica,* the Regional Agricultural Development Council (COREDA) of Region VI of the Public Agricultural and Nutritional Sector of *Guatemala,* the Project to Support Small-scale Producers (FIDA II) in the *Dominican Republic,* and the Integrated Rural Area Development Program (ARDI), specially ARDI-AROA, in *Venezuela.*

Both multinational projects were successful in 1984 in including approximately 500 directors and technicians from 68 agricultural public sector institutions and close to 300 small-scale farmers from 18 countries of Latin America and the Caribbean in their actions. The project's experiences were documented by the hemispheric component of the PROPLAN projects. Together with the experience of the institutions involved in the hemispheric network, they provided a basis for beginning to develop conceptual and methodological tools which would provide feedback for the work of the country components and for the training being provided to technicians from different IICA member countries in the form of annual multinational courses conducted by PROPLAN.

The hemispheric component of the multinational planning and management project for rural development in Latin America and the Caribbean made major progress towards achieving its three objectives:

a. In order to develop an integrated approach to guidance of the rural development process, work continued toward generating conceptual and methodological documents on the psychosocial approach to guidance, with emphasis on group efforts requiring the participation of decision-makers, implementers and advisors. Work in this area focused on interpersonal and intergroup relations in project and program management for rural development, on coordinating the duties of decision-makers, advisors and implementers, on interinstitutional coordination for integrated service delivery to support farmers, and involving farmers in public sector programs and projects, and on using microcomputers for guidance tasks. This material is frequently used by the PROPLAN country components and in courses conducted by PROPLAN.

b. Another objective is to develop and use a teaching and learning pattern for technical cooperation activities, appropriate for the transfer of know-how and experience in guidance of the rural development process. Progress was made in applying and documenting the learning by doing and the teaching by doing approach used for technical cooperation actions in the country component, and practiced in multinational courses.

c. The third objective is to ensure the coordination of the efforts of technicians working in the framework of the IICA/Kellogg Agreement and guarantee a group work strategy. Progress was made in applying the group work concept and in coordinating multidisciplinary teams. This concept is translated into direct technical support and training activities held by the country components and in multinational courses.

The hemispheric component of the multinational project for the dissemination and exchange of know-how and experience in planning and management for rural development also made headway in terms of its three objectives:

a. The first objective is to operate a hemispheric network of information and exchange with other similar organizations, including experiences and results in the subject areas of interest to PROPLAN projects. The exchange of documents and experiences continued to take place with the Development Project Management Center (DPMC) of the *United States* Department of Agriculture (USDA), the International Development Management Center

(IDMC) of the University of Maryland in the *United States,* the Inter-American Planning Society (SIP), Headquartered in *Mexico,* the Getulio Vargas Foundation-Inter-American School of Public Administration (FGD/EIAP), headquartered in *Brazil* and the Latin American Council of Management Schools (CLADEA), headquartered in *Venezuela.* In the case of the FGD/EIAP, cooperation was provided for the third consecutive year through an Inter-American course on Agricultural Development Program Management, held every year in Rio de Janeiro.

CORECA supports the Ministries of Agriculture in Central America, Panama, the Dominican Republic and Mexico through reciprocal cooperation and the identification and preparation of studies and projects for rural development.

b. The second objective is to operate reciprocal support mechanisms among other IICA units and PROPLAN projects, to increase the Institute's collection of conceptual and methodological resources. Cooperation was provided for a project in the IICA Office in *Peru* to support the National Development Institute (INADE) in organizing and holding a course on project management, with emphasis on follow-up and evaluation. This provided an opportunity to train 25 technicians working in special projects in Selva Alta. Cooperation was also provided for a project in the IICA Office in *Suriname,* under which 32 technicians from four countries of the Eastern Caribbean received training in project management.

c. The third objective is to disseminate the integrated approach to guidance of the rural development process among technical groups from public institutions engaged in agricultural and rural development. Several courses were conducted, and material generated by PROPLAN projects were distributed. The centerpiece of these actions was organizing and holding multinational courses on consulting services and decision-making for effective guidance. This course has now been taught for two consecutive years, with participants putting in 200 hours of work in each course; as a result, fifty professionals with managerial responsibilities in 13 countries of Latin America and the Caribbean have been trained.

program X

Information for Agricultural Development and Rural Well-being

Introduction

In recent years, and based on the guidelines of IICA's Line of Action I (Information), the Information Program for Agricultural Development and Rural Well-being has focused its attention on the needs of agricultural research and the academic community, through its action in the area of documental and bibliographic information. It has also promoted statistical information projects on the agricultural sector to aid decision-making and project formulation.

The Program has undertaken a vital task by centering its efforts on the establishment of the AGRINTER information system, which was later developed into a subsystem of the AGRIS global data network. Between 1972 and 1982, the implementation stage of the Program was predominantly concerned with input, namely the compilation and processing of bibliographic and documental data. At the same time, CIDIA launched serious initiatives to help establish national agricultural information

(documental) systems, for the purposes of facilitating the compilation and dissemination of data at the country level.

The trend in recent years, which is marked by a well-defined move toward development in the area of documental and bibliographic information, can be attributed to the need to seek new types of technical cooperation, coordination and standardization which underscore the importance of the standardization of concepts, procedures, rules and regulations, terminology, etc., and alternative means of transmitting information, particularly through the use of the most up-to-date computer and telecommunications equipment.

Advances in science, academia and agricultural research witnessed over the last two decades reveal a clear and distinct trend toward specialization, which calls for new approaches which stress the creation and coordination of specialized centers for the analysis of documental and bibliographic information. Likewise, the Program's documental and bibliographic component must be expanded, with emphasis on the dissemination of select and specialized information. This process must be accompanied by the transfer of functions and services from international organizations to national organizations, over a ten to twenty-year period.

The Challenge of Tomorrow

Despite growing demand, IICA's continual concern with documental and bibliographic information systems naturally led to neglect of information *per se,* represented in part by existing numerical-statistical information systems.

The foregoing calls for a twofold approach to address the growing demand for numerical and statistical information services, as well as pertinent technical analysis, which constitutes a most arduous task. Similar efforts should be ambitious, yet realistic. This suggests that the creation of integrated national and regional agricultural information systems should be explored. However, such systems should be implemented in the form of modules which are dedicated to specialized areas of study and thus have a greater demonstration effect. The field of numerical-statistical information affords IICA an excellent opportunity to play, together with other regional and international organizations, a leading role in the indispensable tasks of standardization, promotion and technical analysis.

In the past, with only some exception, most efforts in the area of information at the national level were focused on activities which

essentially served to "maintain" national actions which otherwise might have disappeared. However, today's demands require that these activities play a more decisive role in other types of promotional and development efforts.

Program X action strategy suggests that it should not carry out those activities which national entities should conduct, but complement, enhance and promote them. However, this could be difficult to achieve, and, in practice, could require a tremendous amount of time, because of the fact that for a long time IICA played a unique role in the field of documental information.

The decentralization process launched by the new IICA administration delegated the country offices greater responsibility for the identification of national interests in the development of information, management and analysis, the establishment of contacts with appropriate institutions, the development of information projects and the subsequent allocation of funds.

One example of the type of activities which should be promoted in the future is the IICA-IDRC cooperative project to introduce and disseminate the use of the AGRINTER and AGRIS data bases in Latin America and the Caribbean. This served to link up major activities carried out by the national institutions with the support of IICA technicians (Program X) and the most valuable financial and technical support of IDRC.

The dramatic and continuous technological advances taking place in the field of computer science and related disciplines —such as telecomunications, the use of satellite images, electronic processing in general— are shaping the development of information services.

The "microprocessor revolution" has sparked a notable increase in the use of microcomputers. This trend has been accompanied by the rapid development of appropriate programming for the use of new and more economical equipment. The access which this affords to all types of data bases (documental, numerical, statistical, etc.) confirms the need and appropriateness of steering actions which facilitate said process in an economical, organized and coordinated fashion.

The Program should take the lead in this effort by facilitating the move towards new forms of access to and dissemination of information. However, at the same time, it should be wise to existing biases

and misconceptions, such as viewing the terminals, screens, keys, monitors, peripheral and printing equipment as status symbols. Caution, modesty and awareness must be exercised, since computer science in general, and the pertinent equipment in particular, are often viewed as an end in and of itself, rather than a means to an end which facilitates the performance of serious tasks at the scientific, conceptual and analytic levels.

In terms of the lessons learned from past experience and the general directives issued by the Office of the Director General of IICA, particularly where criteria for concentration of projects in each of the programs are concerned, any review of the situation and of the position taken should underscore the following:

Given that it is generally deemed both desirable and efficient to apply the criteria of concentration through integration, and that information lends itself as an integrating component, it is imperative to view this field as one which provides a service or is present in many or all of the substantive fields which directly concern agricultural development and rural well-being. In the promotion thereof, which is the task of all IICA programs and projects, informational support must concentrate its action on improving the diverse decision-making processes which forge said development and well-being, since said improvement is the ultimate objective of information systems.

A strategic element in the present and future development of the field of information is the ubiquitousness of the tremendous technological advances being made in computer science and related disciplines (telecommunications, satellite images, electronic processing in general).

For the reasons described above, criteria such as efficiency and efficacy suggest that this vast field and related disciplines be looked upon as a means to an end and not an end in and of itself, so that they can support the orientation and development of programs and projects in a desirable and resolute context of concentration/integration.

Bearing in mind the foregoing strategies, the following enumerates the thematic areas of concentration in the domain of information which are considered to be of high priority and to have the greatest impact:

a. Organization and development of integrated documental and bibliographic services to facilitate the decision-making process of the ultimate user, in coordination with and with the support of CIDIA at the intermediate user level (national and regional organizations);

b. concentration on the improvement of existing infrastructure (such as AGRINTER) to expand the coverage and scope of available services, for the purposes of concentrating and integrating specific substantive fields: creation and development of specialized centers for the analysis of documental and bibliographic information;

c. organization and development of integrated information and quantitative analysis services, to facilitate the decision-making process for institutional users, in coordination with and with the support of CIDIA at the national and regional levels;

d. concentration on the creation of appropriate systems and infrastructure for purposes of concentration and integration in specific substantive fields: creation and development of specialized centers for the processing and analysis of statistical and numerical data and information.

ACTION IN THE COUNTRIES

Some of the Program's actions are of hemispheric scope and may be developed either at headquarters or in some countries, as part of a strategy to cover all the countries. The latter is the case of the AGRINTER documental information system; the numerical information system also entails action at the country level as well as centralized actions of hemispheric scope.

The following is a summary of specific activities conducted in the countries in 1984.

Area 1 — Central

One action worthy of mention which has covered the countries of the area is the Agricultural Information System for the CORECA countries. This system provides the countries of the Central Area with sectoral information and analysis services.

Four macrodescriptors were completed in *Guatemala* and factual information related to said descriptors were included in the project to support the development of a National Agricultural Information System in Guatemala (SNIAG). Dictionaries of variables and tables for input and output information were designed, as were systems for direct access on screens to tables with data on the last agricultural census. In order to facilitate the efficient use of funds for the project "Supporting the AGRINTER National Center" of the Faculty of Agronomy of the University of San Carlos, Guatemala, IICA has collaborated in the administration of funds, specifically those made available by IDRC, and has provided technical assistence in specific areas.

In *Honduras* several actions were launched to implement a project to introduce and disseminate the use of the AGRINTER and AGRIS data bases, which was sponsored by the IDRC. A specialist was studying the prospects for implementing the project using the computer equipment and human resources available to the Center for Agricultural Information of the Secretariat for Human Resources.

In *Costa Rica,* support was given to the Executive Secretariat for Planning in the Agricultural Sector (SEPSA), to keep statistical files on diskettes and other magnetic media which afford rapid updating and retrieval. Cooperation was also provided in the preparation of computerized maps for the agricultural zoning project.

A short course on cartographic information management was offered to functionaries from INETER in *Nicaragua,* and a second course was held on AGROVOC indexing in the National Center for Agricultural Information and Documentation (CENIDA), which was attended by functionaries from other official institutions. As part of the support efforts to promote documentation services, the Program cooperated with national functionaries in the preparation of a project to strengthen the agricultural information system. This project was submitted to IDRC for funding.

Area 2 – Caribbean

IICA worked with the Marketing and Agroindustry Program in the preparation of a project on market information for the countries of the Caribbean Basin; this project seeks to facilitate the sale of products from the area in the *United States* market.

Some of the major activities worthy of mention include the technical support offered to the Ministry of Agriculture, Food and Consumer Affairs (MFCA) in *Barbados.* Achievements in 1984 included the procedure for sampling fish catches, prepared with the Planning Unit and the Fisheries Division, which comprises several species and will be applied to various loading docks for fishing vessels. A file was also designed for the retrieval and analysis of daily catch information. Said file was complemented with an historical record with additional information, covering the period 1964 to 1984. A data base now exists with information on the area planted with 32 non-traditional crops and another with data on imported foodstuffs for 1980 to 1983.

In 1984, a specialist in documental information provided technical assistance to the Ministry of Agriculture in *Trinidad and Tobago* in the development of an information system. Work was carried out with the Ministry which sought to eliminate obstacles to the implementation of a project for the use of data bases and will receive substantial support from the IDRC.

Program X recorded a high demand from several member countries for information on animal health, plant protection and agricultural research.

Area 3 – Andean

An agreement was signed with the Agricultural Institute of Colombia (ICA) to develop a project to promote the use of the AGRINTER and AGRIS data bases and a functionary from ICA was trained to use the ISIS data base management system. In addition, a functionary from IICA installed an ISIS system in Bogota and a version of the AGRIS and AGRINTER data bases; a course in AGROVOC indexing and information retrieval was conducted. An information specialist domiciled in *Colombia* assisted the Program in the preparation of training courses on documental information analysis and in increasing the direct users' service through the Rodrigo Peña Library.

In *Peru,* the Program collaborated in the preparation of user profiles for selective dissemination of information and tables of contents, as part of the alert service within the project to promote the use of data bases receiving funding from the IDRC. This project received support in the form of information for data bases and information for systems management.

In response to the need manifest in the Ministry of Agriculture and Livestock in *Venezuela,* a team of technicians from CIDIA prepared a project profile for an agricultural statistics system. Support actions were also launched to implement a project to promote the use of data bases, in cooperation with REDIAGRO (Venezuelan Agricultural Information Network).

Area 4 – Southern

Program X activities in *Brazil* centered on two projects: Supporting activities in the Agricultural Documental Information Center of the Ministry of Agriculture (CENAGRI), whose most important task in 1984 was to conduct a revision of the SNIDA/CENAGRI planning system for CENAGRI with the assistance of a consultant. Within the framework of the project to support the installation of SUDEPE's (Superintendancy of Fisheries Development) documentation and information system, several (SDINS) operating manuals were prepared, including a basic guide to systems which make up the SUDEPE Data Bank. This entity trained 57 of its technicians in data processing.

Within the project to strengthen the national agricultural sciences information system, in *Argentina,* the Program worked to update the record of agricultural research, extension and university level institutions. The service for disseminating selective information for national professionals in the areas of animal health and plant protection

Program X completed the study and sampling of fish catches, prepared for the Ministry of Agriculture, Nutrition and Consumer Affairs in Barbados.

was continued, as the demand therefor has increased considerably. The service for the selective distribution of information on agricultural research was also continued. In addition, towards the end of the year, steps were taken to disseminate the technical information produced by AACREA (Argentinian Association of Rural Consortia for Agricultural Experimentation) since its inception. In an attempt to facilitate access to agricultural information via telecomputer communications, a course was conducted for 35 professionals on information access and retrieval, by a functionary from FAO.

To support the use of computerized plant protection information systems, a technical report was prepared on the selection of data processing equipment. Moreover, progress was made in the compilation of a registry for inspection and interception of harmful agents associated with imported agricultural products. Several documents were also produced which were related to the National Directory on Plant Protection Specialists and computer programs were designed for the plant protection information system.

Investment Projects Center (CEPI)

Introduction

While 1982 and 1983 witnessed the organization of CEPI and the efforts of the Center and its personnel to reaffirm their institutional niche within the framework of IICA's Medium-Term Plan, 1984 marked the consolidation of the Center's actions.

During 1984, the Center developed its own technology for formulating projects, didactic material and case documents, on the basis of two years of experience.

It is difficult for a unit like the Center, operating on a continental level, to visibly demonstrate said consolidation process. Nevertheless, there are three elements which attest to the valuable role the Center plays within the framework of IICA's action, which is highly regarded by the Member States.

In terms of training, in 1983 eighty-five applications were received for the courses conducted with the Economic Development Institute of the World Bank on the Preparation and Evaluation of Agricultural Projects. This figure rose to 139 in 1984, representing a 65.5 percent increase over the previous year.

In the field of project formulation, the Center has always maintained four types of action: a) support for projects financed with its own resources; b) actions carried out in benefit of the countries, through the Unit for Project Preparation (UPP), which is financed with funds from the ATN/SF-1957-RE(IDB) Agreement; c) support for the Joint IBRD/UNDP/FIDA/IICA Unit for Central America (RUTA), and d) support for the Technical Secretariat of the Regional Council for Agricultural Cooperation (CORECA), in *Central America, Panama, Mexico* and the *Dominican Republic.*

It is important to note the rapid increase in the number of actions in this area, especially the support from the countries to obtain the second phase of the IDB/ATN/SF-1957-RE Agreement, which resulted in concrete letters of support for said intentions from the following governments: *Chile, Argentina, Paraguay, Peru, Colombia, Venezuela, Panama, Dominican Republic, Haiti, Honduras* and *El Salvador.*

The foregoing proves that after three years the Center continues to enjoy excellent relations with the Member States and their institutions. Relations with other organizations have also flourished during this period in which the Center's activities have developed.

During 1984, the Center maintained contacts and relations with such international, regional and bilateral aid organizations as the Inter-American Development Bank (IDB), the International Bank for Reconstruction and Development (IBRD), the Latin American Association of Financial Institutions for Development (ALIDE), the Economic Development Institute of the World Bank (IDE), the United Nations Development Program (UNDP), the Agency for International Development (AID) and the United States Department of Agriculture (USDA).

In 1984 negotiations began with the Inter-American Development Bank (IDB) to obtain a second phase of technical cooperation for project formulation, which will hopefully be formalized in the first months of 1985. In addition, an IICA/IDE Memorandum of Agreement was signed, establishing the basic guidelines for a training program scheduled for implementation during the 1985-1990 period.

The Center began negotiations with ALIDE to implement a joint program extending the IICA-National Bank of Costa Rica program on preparation of projects at the farm level to include all ALIDE Members.

The Center's Problem Areas

Specialists are predicting that during the next few years the reactivation of the continent's agricultural sector will depend on external resources. Present-day evidence suggests that while internal resources procured from the development banking system at the local level increased by 8.8 percent between 1975 and 1982, the sum of external resources procured grew by 25.3 percent.

Other resources entering the region to reactivate the sector should be used in the most rational way possible, so as to:

a. increase exports

b. improve public income

c. reactivate investment plans

d. improve the maintenance of what is currently available.

None of the above, however, is possible unless investments are resolute, programmed, evaluated and efficiently managed.

During recent deliberations, the development banking systems in the continent have recommended the establishment of increasingly rigorous procedures to evaluate requests for loans and, above all, the establishment of mechanisms that will allow for periodic project evaluation and thus guarantee the successful outcome of profitable investments.

The next few years will bring renewed interest in the following actions already launched by the Center: a) training in economic, financial and social project evaluation; b) development of analytical and methodological procedures that will step up and increase the use of border prices and economic prices, and c) the devevelopment of projects to utilize and maintain available resources.

Summary of Actions for Technical Cooperation Implemented by the Center in the Area of Training and Methodology

CEPI was directly responsible for organizing the following training events in 1984:

a. IICA/MIDA/MIPPE Course on Identification, Formulation and Evaluation of Agricultural Projects, held in *Panama*, from March 19 to April 6, attended by 18 Panamanians. A prefeasibility study was conducted during the course and the parameters for financial and economic evaluation of projects in Panama were also determined.

b. IICA-MEP Course on Planning and Evaluation of Agricultural Projects, held in Alajuela, *Costa Rica*, from 24 to 27 April 1984. A total of 29 functionaries from Agricultural Technical Colleges received training.

c. IICA-IDE Course on Planning and Evaluation of Agricultural Projects, held in San Jose, *Costa Rica*, from 7 May to 24 June 1984. The course was attended by 23 participants from 15 Latin American and Caribbean countries. Three prefeasibility studies were also concluded in the same country.

d. Seminar for Banking Executives, held in San Jose, *Costa Rica,* from 23 to 24 July, and attended by 25 high-ranking officials from the National Bank of Costa Rica (BNCR).

e. First IICA/BNCR Course on Agricultural Farm Level Projects, held in San Jose, *Costa Rica,* from 17 September to 5 October, attended by 25 specialists from the BNCR; five farm project evaluations were conducted.

f. Second IICA/BNCR Course on Farm Level Agricultural Projects, held in San Jose, *Costa Rica,* from 12 to 30 November, with 27 Costa Rican bank specialists in attendance; five financial evaluations were conducted for projects at the farm level.

CEPI was also instrumental in organizing the following events:

a. Regional Course on Management of RUTA Projects, with 24 participants from six countries in the Central American Isthmus. Three reports were prepared on the evaluation of projects underway in *Costa Rica.*

b. Course on the Preparation of RUTA Projects, held in *Honduras,* with 20 national participants in attendance. Five prefeasibility studies were conducted for projects in that country.

c. Course on the Preparation of RUTA Agricultural Investment Projects, held in *El Salvador,* with the participation of 21 national technicians.

d. Course on Agricultural Project Preparation for RUTA, held in *Guatemala,* with the participation of 26 technicians from the Guatemalan Agricultural Public Sector.

Events directly organized by the Center and conducted with the support and participation of its specialists, included 10 training events which were attended by 238 specialists from 16 countries in Latin American and the Caribbean; a total of 23 project studies were also carried out.

Reference to training efforts would be incomplete without reference to the preparation of didactic material, case studies and exercises for use at courses and seminars —in total more than 20 texts during the course of the year.

During 1984 CEPI initiated the preparation and adaptation of microcomputer or personal computer programs for the identification, preparation and evaluation of agricultural and rural development projects. At the end of this period, several programs were in the final stage of completion for subsequent distribution to the Institute's Member States and the pertinent national institutions requesting them.

Actions in the Area of Project Identification and Formulation

A variety of activities were conducted in this domain, such as direct technical cooperation, project development and technical missions:

A. Technical Cooperation and Special Missions

1. Reconnaissance Mission for Phase I of the PROMIR Agricultural Development Project, Melgar-*Peru.*

2. Intermediate Review Mission for the Program to Foment Cattle Production and Animal Health in *Honduras.*

3. Intermediate Review Mission for the Grain Storage and Marketing Project in Santa Cruz, *Bolivia.*

4. In-service training on diverse aspects of economic analysis of animal production prototypes for specialists in *Guatemala, Panama* and *Mexico.*

5. Preparation of costs, herd projections and animal production prototypes to be presented to the Chamber of Milk Producers in *Costa Rica.*

6. Analysis of the TECNOPLAN/MIDINRA proposal on the production of certified rice seed in *Nicaragua.*

7. Cooperation with USDA-APHIS in the preparation of the organizational stage of the Project for the Eradication of Screwworm in *Central America, Panama* and *Belize.*

8. Cooperation with the Office for Agricultural Planning of *Chile's* Ministry of Agriculture in the development of the Agricultural Sector Projects Bureau.

9. Preparation and modification of the Project Proposal for the Development of the Phase Two of the Information System for the Analysis of the Agricultural Sector in the CORECA countries.

10. Preparation of a Base Document for CORECA's Financial Management Mission.

11. Preparation of a Technical Proposal for the use of IICA-ROCAP Agreement funds for the implementation of Policy Analysis Studies.

12. Cooperation with the FAO-ECLA Agricultural Sector in *Mexico,* in the preparation of a Summary of the Project for the Exportation of Tomatoes and Other Crops and Fruits from *Central America* to the *United States.*

13. Cooperation with SEPSA-Costa Rica in the Design of a National Agricultural Projects System.

Participation in:

14. First Ibero-American Sessions on Agroindustry and Food Technology.

15. Meeting of Rural Youth Specialists in *Panama.*

16. Program for Technical Cooperation in the Transfer of Agricultural Technology IICA-*Spain*-IDB.

17. Technological Exchange in Animal Health and Production, with *Mexico, Central America* and the *Dominican Republic.*

18. Marketing and Control of Black Sigatoka and Other Diseases and Pests in Plantains, in the Province of Chiriqui, *Panama.*

19. Advanced and Detailed Guide for the Development of a Management Plan for Area 1-A of the Rio Parrita Basin in *Costa Rica.*

20. Project Profile for Agricultural Development, Phase One, PROMIR-MELGAR, *Peru.*

In 1984, CEPI prepared investment projects in the agricultural sector of the Member States for a total value of US$ 519 million.

21. Guide for the Presentation of CORECA Projects and Management Guidelines.

22. Program to Support Livestock and Animal Health in *Panama.*

B. Projects Prepared

1. Feasibility Study for the Program to Support Bovine Production and Animal Health in *Honduras.*

2. Feasibility Study for the Project for the Consolidation of Agricultural Development in Coto Sur, *Costa Rica.*

3. Efficiency Study and Social and Economic Evaluation of Phase VII, Global Agricultural Credit, National Bank of *Costa Rica.*

4. Economic and Social Evaluation of Agricultural and Agroindustrial Credit-Costa Rican Cooperative Bank.

5. Feasibility Study for the Grain Storage and Marketing Project in Santa Cruz, *Bolivia.*

6. Financial and Economic Evaluation Study of the Arenal-Tempisque Irrigation Project, *Costa Rica.*

During this period, CEPI prepared investment projects for the countries for a total value in excess of US$ 519 million. This sum, together with the figure for 1983, brought the total to US$ 946.5 million for the 1983-1984 biennium.

Toward the end of 1984, CEPI maintained, under constant analysis, eight additional investment projects, representing a sum of approximately US$ 650 million, based on available profiles.

Inter-American Agricultural Documentation and Information Center (CIDIA)

Introduction

Attitudes towards agricultural information are highly contradictory: while the importance of information, regardless of its type (i.e., documental or numerical-statistical), is generally acknowledged, in actual practice, its development in the countries does not seem to reflect this sentiment. Factors of both a general and a specific nature are responsible for this phenomenon. With respect to the former, it must be borne in mind that information is costly, both in terms of real, financial and human resources, as well as the time required to adequately develop the field and its instruments. This aspect is important in times of crisis, such as the current period, and results in regression rather than progress, as was the case in 1984.

Generally speaking, there are no national information systems *per se* in the countries, even though some

record the nominal existence thereof. The normal development process, with all of the vicissitudes produced by the economic crisis, has made some progress in the use of information, normally associated with the particular demands of the planning and decision-making process. However, the present-day situation is not by any means a satisfactory one when it comes to documentation and bibliography, also known as documental information, scientific-technological information and sometimes simply as information.

For several reasons generally associated with the lack of resources and innovative ideas, the situation during 1984 remained at a standstill, prompting the need for the introduction of modifications and modern ideas.

CIDIA's Actions

During 1984, CIDIA prepared a historical document on the inter-American AGRINTER system, with recommendations on how to revitalize it. To achieve this end, the Center hired a consultant to prepare a special report, which essentially reinforced the views expressed in the basic document regarding reports and actions derived from the meeting convoked by the Center in response to directives contained in the resolutions of the Inter-American Board of Agriculture in October of 1983.

One of the factors hindering the normal or the desired development of the field of documentation is the lack of coordination amongst national institutions, which is often aggravated by internal conflicts.

This year has witnessed a marked increase in the establishment and operation of centers specialized in the analysis of information (documental). CIDIA has closely followed these developments and has taken the first steps towards implementing this type of activity, through contacts and discussions with ISNAR and INCRAF, both of which are international centers specializing in agriculture. It is highly recommended that in this context, and within IICA's framework, centers be developed which specialize in the analysis of documental information: one oriented toward tropical agriculture (Orton Memorial Library); another toward education, planning, agricultural policy and organization and management of agricultural research (Venezuela Library); and a third toward rural development, agrarian reform and social aspects (Rodrigo Peña Library).

One of the more important factors hindering the development of documental information is the lack of resolve and support on the part of the governments and scientific organizations. The problem is exacerbated by the lack of real leadership in specialized institutions or centers which, as stated earlier, are in conflict with other institutions. There is resistance to the assumption of any leadership role or attempt at coordination, a situation worsened by the general lack of adequately trained personnel as well as by the lack of financial resources. Some progress was recorded in 1984, but paradoxically it was associated with a kind of stalemate. Perhaps this is not the most appropriate word, since the intention is to emphasize the fact that personnel involved in the development of documental information systems are beginning to recognize the need for taking stock of past experience and using that knowledge to promote new forms of development. In other words, it has become increasingly clear that CIDIA is attempting to develop, and that the approach used to date, which has proven relatively fruitful in the past, is no longer relevant. CIDIA must seek to support and promote new forms of action, which should naturally be associated with the wealth of technological advances made in recent years in the field of computers and electronic processing services in general.

These new plans should recognize the progress that has been made in the past few years, including 1984. The services established by the AGRINTER network have been consolidated and strengthened, procedures have been uniformed and concepts clarified. CIDIA's training efforts have aided in this process, but results have been negligible due to the high turnover of personnel in the respective units in the countries.

During 1984, joint efforts with FAO served to disseminate the use of AGROVOC. In addition, there was a drive to get the countries to accept greater responsibility for guiding their actions, including the use of the national, regional and worldwide data bases available to them. Promotional and pioneer efforts are being carried out in the countries through the development of mechanisms to consolidate national systems to take full advantage of available data bases with computer access.

CIDIA, on its own initiative, and in response to the directives of the Inter-American Board of Agriculture, took major strides in 1984 to institutionalize the AGRINTER system, create its Technical Consultative Committee and establish its Executive Secretariat. Accord-

ingly, it was decided to fill the vacant post at CIDIA with a specialist in documental information in 1985. To further these ends, a special committee meeting was held in Brasilia, *Brazil,* to discuss the terms and conditions of said institutionalization process and the constitution of the Technical Counsultative Committee contemplated by the resolution. CIDIA proceeded to develop an extensive document based on the recommendations of the special committee and an executive summary of this document was submitted to the General Directorate in June of 1984, for its due consideration and appropriate action.

In the field of information *per se,* based on textual or numerical-statistical data, the situation is one of sustained demand for the implementation or improvement of adequate information systems. These demands are varied and in many instances have materialized when IICA has made concrete requests for technical cooperation, which CIDIA has addressed within its capacity.

Steps were taken in this regard to prepare a numerical-statistical information project dealing with socio-economic data, specially in the field of marketing, for the CORECA countries. Likewise, a proposal was prepared in 1984 to obtain external funds (W.K. Kellogg Foundation) to conduct a seminar-workshop in 1985 on the use of modern computer technology for the agricultural sector in Latin America and the Caribbean. Both actions proved successful and work will begin in 1985 to ensure its implementation.

During 1984, requests were received from *Argentina, Venezuela, Mexico* and *Colombia,* regarding the creation of national agricultural information systems. In all instances concrete measures were taken to implement said initiatives. In response to concrete demands for numerical information and statistics as well as future processing demands, the data bases have been expanded and updated, as have the retrieval and processing mechanisms associated with the information furnished by the Agency for International Development of the United States (AID), which constitutes IICA's so-called "Integrated Inter-American Agricultural and Socio-economic Data Base." AID has cooperated with CIDIA in the implementation of the above-mentioned efforts to expand and update the data and programs appropriate for processing.

As a consequence of the socio-economic conditions prevailing in the countries of the area, and the promotional tasks in the field of

educational material, the countries have shown growing interest in high quality, low cost educational texts, resulting in increased book sales in 1984.

IICA's contribution to the dissemination of computer and general electronic technology, considering its comparative advantage as an inter-American organization, should be in the form of actions to organize the rapid developments of the past 20 years, an in particular the last three to five years. CIDIA's contribution in this area is supported by the Institute's recent decision to purchase new mainframe equipment and microcomputers. When this process is completed, each country office will be equipped with the computer equipment needed to satisfy administrative, supervisory and follow-up needs, as well as to meet the individual information requirements of each office.

A project with external funding was prepared during 1984 for a seminar-workshop on this subject. The seminar is structured as a project for the development of modern computer technology in agriculture as of 1986. During 1984, CIDIA formulated ideas for the project, and will continue to do so during the course of 1985, with continued external support (University of Wisconsin, Salzburg Seminar, the North Central Institute for Computer Science of the *United States of America,* etc.).

Disparate progress has been made in the countries in the field of computer technology as a vital tool for documental information because of the lack of standardization. CIDIA personnel have participated in seminar-workshops, international congresses and agreements to increase the efficiency of program systems for processing documental information. They have also played an active role in course-workshops designed to modernize the field and worked to incorporate the most modern technology.

In brief, the situation is such that it has become necessary to evaluate past events in the field of information of all types in the member countries, and consequently reshape IICA's work and that of its specialized information Center in particular. In the field of numerical and statistical information, the goal is to create adequate national systems so as to strike a balance with respect to documentation and bibliography, which has traditionally received more of IICA's attention.

ACTION IN THE COUNTRIES

The coordination and organization of the wealth of documental information produced in Latin America and the Caribbean was one of the most important activities developed during 1984. The results of these efforts include: control and recording of AGRINTER input sheets received from the national centers; their revision and correction; training in AGRIS-AGRINTER methodology; preparation of bulletins for dissemination; control, action and processing of input. Approximately 2 000 entries were recorded; over 1 000 entries were revised and corrected; five national functionaries were trained in input methodology; six instruction manuals were developed and sent to national centers; and "AGRINTER Informa" bulletins were published and distributed.

In the same area, support was provided to develop information services originating in agricultural data bases. Actions include the microfilming of documents, the preparation of microfiches and the editorial services of the Agricultural Index for Latin America and the Caribbean. On the order of 800 documents were microfilmed and 500 master fiches were prepared; over 100 000 pages have been put on microfilm. The 1984 Agricultural Index for Latin America and the Caribbean was published, with over 7 000 references and approximately 1 000 pages.

Information is costly, but its impact on agricultural planning and production is immediate. CIDIA supports agricultural development through its documental, editorial, computerized and numerical information services.

Other activities involved the organization and implementation of AGRINTER's Executive Secretariat and the development of a consultancy report to analyze AGRINTER and submit recommendations for its organization and revitalization; a detailed report, which was accompanied by an executive summary, was also produced. Case studies were conducted (in collaboration with FAO) on the acessability of documents in Latin American and the Caribbean. Accordingly, official missions were sent to *Guatemala* and *Peru,* where the data needed for said study were collected. The updated version of the "Bibliographic Reference Document, Official IICA Rules" (Third Edition) was also published. Another activity was the course on information services and users held at the University of *Costa Rica's* School of Library Science, where 35 students were trained. Lastly, in the field of training, several technical courses were conducted on the analysis of cartographic and indexing information with AGROVOC (in *Nicaragua*); the AGRINTER coupon system was administered; the Agroforestry Thesaurus was developed as was the Coffee Glossary; the AGRIS Classification System was translated; publications produced by IICA during 1983 were identified and filed; and the participation of three national specialists at the AIBDA meeting in *Brazil* was sponsored.

As part of the hemispheric actions concerned with AGRINTER, and in compliance with the mandate of the Inter-American Board of Agriculture, which met in 1983, the Program held a meeting of the Special Committee, which was created by said resolution (IICA/JIA/Res.43); enhanced the AGRINTER data base with 7 000 entries sent by the National Centers participating in the System and conducted several technical courses for 110 documentalists and 40 users in the countries.

The Venezuela Library made in excess of 1 000 new acquisitions through purchases, donations and exchanges; 12 issues of "Alerta", "International Events" and "Tables of Contents" were published and distributed; over 1 500 enquiries were attended; over 2 500 documents were loaned; approximately 45 documents were photocopied; 55 computer searches were effected on the AGRINTER, AGRIS and DIALOG data bases; technical support was given to 34 user services in the form of computer search demonstrations; INFORAT officials were trained; 200 card catalogue matrixes were developed; over 5 000 duplicated index cards were developed and organized in catalogues; the document "Venezuela Library: Origin, Purpose and Projections" was prepared and over 1 500 descriptors used at the Library were analyzed.

Other achievements included the development of the document entitled "Design of the Project and Implementation of the Automated System for the Venezuela Library"; review of the literature on automation of libraries, namely 281 titles; formulation of a subproject for documental information on coffee; organization of the collection of resolutions of the Board and the development of indices.

As part of the effort to improve the services provided by the Orton Memorial Library, 17 000 magazine copies were added, 270 monographs were purchased and over 4 000 were donated. Approximately 4 000 documents were donated to 167 libraries and four exchange and donation lists were distributed among 250 agricultural libraries. At the same time, collections were also provided with documents; an updated lists on periodical publications was revised and subsequently sent the FAO; approximately 5 000 enquiries were attended by telephone or on the premises; 138 short bibliographies were compiled and 610 bibliographies were delivered upon request. In addition, the following documents were developed: bibliographies on annatto, African bees, cacao, lethal yellowing of coconuts, rodents as agricultural pests, coffee rust, short bibliography bank, berry borer and crops in Latin America and the Caribbean.

The first revised version of IICA's rules for bibliographic format was developed, and revision services were made available for the information system and the "Alerta" bulletin, such as short compiled bibliographies, new acquisitions and tables of contents. Documents loaned at the library totaled 50 000, and those for take home totaled 7 000. Approximately 1 000 interlibrary loans were recorded and 10 000 IICA and CATIE users, along with 5 000 visitors, were attended; photocopy services were provided for 2 500 documents, including 500 outside requests, and over 350 000 pages were individually photocopied.

Several training courses, talks and practicum on the use of the library and information sources were organized for different entities and were attended by 25 persons from CATIE, 25 from CURA and 20 from UNA. A course on the use of the CATIE-CIDIA-FAO agricultural library, attended by 26 persons, was conducted along with other diverse in-service training actities, and the Seventh RIBDA (Brasilia, May 1984) was attended. Other efforts included service dissemination; users guidelines on library audiovisuals; promotion of services; publication of an article on the library in the agricultural

guide of *Costa Rica* and the FID/CLA Review; studies on documentation centers and its users; and surveys conducted at the National Library, CIP, INIPA in *Peru* and CEDILA in *Guatemala.*

The new Orton Library building, which was donated by Great Britain's Overseas Development Agency (ODA) was officially inaugurated on July 13, 1984. Unfortunately, and spite of the new library's high degree of efficiency, several bibliographic documents, which were being exposed to excessive humidity, had to be transferred to what was the old Orton Library in CATIE's administration building, in order to protect them from further damage.

The collections transferred are essentially those dealing with coffee, cacao, IICA, dissertations, library science materials and some indices. This was a temporary measure taken to safeguard the documents until the severe humidity problem in parts of the new building is solved.

The Rodrigo Peña Library in Bogota, Colombia, has over 22 000 registered users, and over 40 000 enquiries have been attended to during this year. Publications included "Summaries of Rural Development" and the Latin American Bibliography for Rural Development; documentation and information services in Latin American rural development and bibliographic publications were provided, as were reference services, circulation and book loans to library users. Over 1 000 works were acquired through donations and exchanges; over 1 000 works were processed and the same number of bibliographic cards were completed on rural Latin American development.

Efforts launched during 1983 in the field of numerical-statistical information, related to the project on numeral information, were refined during 1984 in order to facilitate the development of a statistical information system on the agricultural sector. This project was designed to include hemispheric coverage and was to be structured in a modular fashion, covering groups of countries and subject areas. Efforts were continued to expand and update the data base of socio-economic and agricultural production information supplied by the World Bank, the International Monetary Fund, the United Nations Food and Agriculture Organization (FAO), the United States Department of Agriculture (USDA) and the Agency for International Development of the United States of America (AID), which currently covers more than 600 variables and over 200 countries around the world. Magnetic tapes have been maintained at CIDIA,

and information on Latin America and the Caribbean is now available for consultation, table development and statistical analysis. Tasks in this area have included the distribution of list of variables, manuals for information use and guides for service requests. Specific requests for information on specific countries and variables during the course of the year have also been attended.

The compilation of macroeconomic information on agricultural production continued for the CORECA countries, including historical series of over 100 variables dating back to 1960, which were updated on a regular basis until 1982. Computerized reports were obtained and distributed for these series, some of which have been processed for specific reports, especially forecast and pattern reports. A project was developed for the CORECA countries for the information subsystem on prices and markets for agricultural products.

A project to prepare and implement a seminar-workshop on the "Use of Modern Agricultural Technology in the Latin American and the Caribbean" was presented and approved for external funding. This event should take place during the latter half of 1985, and a project on the development of this field in the countries is scheduled for presentation on that occasion. Project preparation is in the hands of CIDIA's personnel and it is hoped that funding will be provided by extra-quota resources.

As a part of this project and in response to a request from the Directorate of the Marketing Program, a special study was launched based exclusively on the use of historical series available on CIDIA's socio-economic data base. The partial and preliminary version of this program was made available in 1984, on the occasion of the respective meeting of IICA's Executive Committee. The publication is entitled "Food and Food Security: Projections on Trends and Indices for Selected Variables and Countries" (December 1984). Part of the funding for this effort was provided by the Hemispheric Food Security Project.

The following is a list of the project's major activities and achievements in 1984: collecting and updating of variables from AID of interest to the agricultural sector, implementation of CIDIA's processing equipment for the respective report generator, employing the macroinstructions of the SAS system; Compilation of data from the United States Department of Agriculture on agricultural and livestock products from the Member States up to 1982. The findings

of said process and lists of the information drawn from those data bases have been distributed to IICA's Offices and other entities in the countries.

The IBM 4331 mainframe and CIDIA's IBM-PC were interphased to facilitate the management of subfiles. This will afford the countries grater access to the data bases from their microcomputers.

CIDIA cooperated with the Programs on Animal Health and Plant Protection to develop a proposal for an information system on animal and plant pests and diseases at the hemispheric level. To that end, copies of the proposal were sent to the countries in English and Spanish, together with a questionnaire to confirm their interest and the likelihood of their participation. While the pertinent responses generally reflected a desire to participate, they also expressed a limited capacity to contribute to the implementation of the project.

Support was provided for the program for Agricultural Marketing and Agroindustry (Program VII), to develop a marketing information project for the Caribbean Basin, which was subsequently presented to AID. Attention was given to requests for reports based on existing files, which were made available to the IICA Offices and Planning Units of the Agricultural Sector of the CORECA Countries. Specific human resources lists were developed for COTER. The project system was reprogrammed incorporating the management of information on markets for agricultural products, and contact was maintained with USPAS to define the system's general characteristics. CORECA's Executive Secretariat undertook to ensure that there was a person in each country responsible for coordinating the respective numerical information.

With respect to services and processes for systems analysis and data processing, measures were taken to facilitate the processing of information for both internal and external users of scientific, administrative and documental data. Information was processed for management, human resources, AGRINTER, AGROCLIMA, automation, services division, DIPAI, CATIE, Central Area, CEPI, PROMECAFE, CORECA, Crop Credit Insurance, External Affairs, CIDIA, Geographic Information System, Numerical Information System, Program Development and other external users.

The processing of data for AGRINTER continued, and other important technical tasks were carried out during this period, such as

the conversion of CES/ISIS to the VM/CMS operating system for small equipment. Service was provided to countries seeking to install programs and services in the field of management and to convert over to the OAS accounting package. Other pertinent requests were also attended. In order to take full advantage of the system's hardware and software potential a major investment in human resources is required to analyze existing systems and their future design. The investment itself is creating programming needs that surpass current personnel capacity.

In the field of technical and scientific literature, publication of the "TURRIALBA" and "Desarrollo Rural en las Americas" was continued. Several new publications were technically inspected, four were reprinted, and royalties were paid to seven authors. Over 10 000 questionnaires were distributed in Spanish and 5 000 in Portuguese among the Latin American Departments of Agricultural Sciences as part of the "Bibliographic Needs Survey". The formal publication of twelve new books was concluded and the publication of three new ones was initiated. Seven new titles were published and distributed in the countries and the addresses of 5 000 potential book buyers in the countries were compiled. The year's work can be considered satisfactory, given the volume of books handled and the improved circulation obtained in the countries.

The level of sales increased substantially, striking a healthy balance between investment and returns. The difficulties encountered in 1983 were overcome during this year, and projections for 1985, based on the achievements of 1984, are very promising. The project has a potential to develop much more than it has to date, both in terms of production and increased sales, which could be doubled or tripled. To achieve this, it is important, however, to have the support of assistant editors, who will contribute to accelerate the development of such activities. Editorial support was also provided to CORECA, PROMECAFE, PROPLAN, DIPAI and other IICA programs and projects.

The IICA/IDRC cooperative project works to introduce and disseminate the use of AGRINTER and AGRIS data bases throughout the Latin America and the Caribbean. For this purpose, and in order to properly install and modify the pertinent programs, a specialist from the Division for Systems Analysis and Data Processing was put in charge of the project. The project's most important tasks and results included in-service training for specialists from *Honduras* and

Trinidad and Tobago on the ISIS system; a course on indexing and profile preparation (*Trinidad and Tobago* and *Venezuela*); program modification and adaptation; research on availability of commercial software for microcomputers; development of the document "Evaluation of Commercial Microcomputer Software for Use with Bibliographical Information Systems"; modification of CVS/ISIS to run on VM/CMS; evaluation and training of the IV+V package; preparation of manauals for producing user profiles (SDI); retrospective retrieval of the following data bases: AGRINTER (*Honduras, Costa Rica,* IICA), AGRIS (CIDIA, IICA); modification of the IBM program for emulation of CIDIA's IBM-PC-XT asynchronous station to operate via TIMMET for the recuperation of AGRIS data bases; training of a CIDIA analyst of the *Colombian* DANE systems on ISIS/CMS 4.4; coordination with IDRC/CONICIT (Venezuela); modification of the programs for the AGRINTER system for use on the IBM 4331 at CIDIA and use of the ISIS 4.4 (in CDS and CMS); conversion to ISO distribution format of several AGRINTER data base volumes; conversion to ISIS distribution format of several AGRINTER data base volumes; distribution to *Colombia* of the AGRINTER data bases; ISIS format updated up until 1983.

In the area of hemispheric actions concerned with the analysis of Data Processing Systems, IICA took important steps towards the configuration, installation and operation, in all the countries, of a hemispheric network for telecommunication, analysis and interactive processing at the service of national institutions. Over US$ 1.5 million were invested in the purchase of a new IBM 4331 mainframe and 40 microcomputers and word processors, which, by 1985, will afford more agile and efficient service in the field of agricultural information. It is interesting to note that IICA's forementioned investment for use by the member countries is unmatched by any of the other organizations of the Inter-American System. The system is expected to generate very productive technical communications in the field of documentation and information analysis in the countries in only a few years.

IICA's contact with the United Nations Food and Agriculture Organization (FAO) is close and continuous. CIDIA continues to be the regional coordinator for the AGRIS System and, as such, sends and receives magnetic tape data for collection in the respective data base. It also serves to disseminate the information contained in said bases. Missions in Rome, *Italy* worked to strengthen contacts with different FAO departments, especially those dealing with documen-

tation and bibliography and the statistics division. Access to FAO's statistics on magnetic tapes was made possible as a result of these efforts. These tapes are now being incorporated into the Center's socio-economic and agricultural data base. CIDIA has also maintained close ties with FAO for cooperation in regional courses, preparation of case studies in predetermined countries, the preparation and development of AGROVOC, indices of thematic categories, manual on the use of AGROVOC, etc.

Close ties are also maintained with UNESCO. Personnel from the Center attended a month-long course held in Austria, organized by UNESCO, on Systems IV and V; they later extended their mission to attend a seminar sponsored by UNESCO, in Paris, *France.* Correspondence and other kinds of contact continue to flourish with this organization. An agreement was drawn up to enable CIDIA to develop the ISIS system in Latin America and the Caribbean and is currently being implemented.

Relations with Canada's IDRC are also close and continuous, especially in the development and implementation of the CIDIA project to disseminate the AGRIS and AGRINTER data bases currently being implemented in five Latin American and Caribbean countries, which is financed with IDRC funds. Of late, relations with this organization have become more intimate due to the fact that CIDIA's former Director is now the information specialist of IDRC's Regional Office for Latin America and the Caribbean. Several IDRC officials have visited IICA, including the Director of the Regional Office for Latin America and the Caribbean.

Contacts were also maintained with the Regional Office for Central American Programs (ROCAP) of the AID. CIDIA personnel have prepared a project to be implemented during 1985, financed with ROCAP funds, on socio-economic information systems, focusing on marketing for the CORECA countries. Documentation is also being prepared for PROMECAFE with ROCAP funding.

CIDIA also enjoys close contact and cooperation with the AID Central Office. A second AID mission was received during 1984, which was made up of two technical specialists delegated to update the socio-economic data base and to incorporate new programs to facilitate the management of the respective information. AID provided the economic support required for said mission and CIDIA financed the visit of two specialists from Washington, D.C.

Several contacts were initiated during 1984 with the W.K. Kellogg Foundation to procure funds for the implementation of a seminar-workshop on the use of modern computer technology in agriculture in Latin America and the Caribbean. Towards the end of the year, the respective project, scheduled for implementation in 1985, was approved for a sum of approximately US$ 60 000.

Contacts were also maintained with the Inter-American Center for Teaching Statistics in Santiago, *Chile,* and with the Inter-American Institute for Statistics, with headquarters in Washington, D.C. and Santiago, *Chile.* A request has been filed with this organization to incorporate IICA, through CIDIA, into its Committee for American Governmental Statistics (CEGA).

The AGRINTER System and CIDIA's "Venezuela" (Central Office), "Orton Memorial" (CATIE-Turrialba) and "Rodrigo Peña" (Colombia) libraries provided extensive information services to the countries in 1984.

Tropical Agriculture Research and Training Center (CATIE)

Introduction

CATIE, a non-profit, civil association concerned with science and education, was created by the government of Costa Rica and IICA. A new contract was signed to this effect in 1983.

In March of 1984, Dr. Rodrigo Tarté Ponce, a Panamanian national, became the Center's Director, a post to which he was elected for a period of four years. The new director quickly formulated and implemented a series of structural and operational changes, orienting the Center towards strengthening of ties for technical cooperation in the region and consolidating it as an institution excelling in research and training in agriculture and forestry, at the service of the countries.

During 1984, CATIE's Directorate formulated the following strategies and institutional mechanisms:

a. permanent consultancies with the Member States, at the level of national institutions for research and training, as well as that of decision-making and planning entities;

b. strengthening ties for cooperation with national, regional and interregional institutions and centers, through the implementation of joint or complementary actions and the establishment of research and technical cooperation networks;

c. strengthening national research and training institutions;

d. strengthening CATIE's scientific and academic capacity to guarantee optimum use of its staff and the success of its projects and programs;

e. search for resources to strengthen the basic CATIE budget;

f. search for multidisciplinary, integrated technologies.

Presently, CATIE's member countries are: *Costa Rica, Guatemala, Honduras, Nicaragua, Panama,* and the *Dominican Republic.* Other countries have requested membership thereto, and these requests are being duly considered by the institution's Council of Directors.

Research and training activities developed during 1984 were implemented by the Technical Departments of Plant Production, Renewable Natural Resources, Animal Production and Resource Development for Research and Education, based on 42 projects or cooperation agreements with 23 institutions. Of the total member of projects, eight correspond to international or regional organizations; 20 to governmental cooperation agencies in non-member countries, four to specific contracts with government agencies in the Center's Member States, and ten to similar foundations or institutions.

Plant Production

Research on Plant Production focused on solving technical problems affecting agriculture in Central America. In 1984, progress was made in the analysis of information generated by research methodology for crop production systems.

Several documents describe the different technological alternatives developed through experimental work and assays and evaluations at the farm level, which provide technological options to improve the technology of techniques employed by farmers in a specific area. The alternatives studied included combinations of maize with beans, rice, cassava and sorghum, either in multiple or sequential cropping systems, entirely under the supervision of 30 farmers in each zone. Analysis of alternatives included economic calculations and estimates of potential adaption by farmers, for the purposes of considering their transfer.

Work continued on experimental farm tasks, leading to the development of technical recommendations to improve crop systems of major importance to farmers in the area. During the course of the year, information was collected on multiple crop systems of cassava with maize. The following maize varieties produced outstanding results: Diamentes 8043, improved Tico V1 and Tico V7. In multiple crop systems of cassava with beans, 14 bean varieties were selected, which underwent phases of propagation and evaluation of genotype. The study of single crop production systems analyzed different species, with white tiquisque, ginger, yams and pineapple, achieving outstanding results. Promising results were also obtained from combinations of bean and maize, sorghum, potato, tomato and onion, either in multiple or sequential crop form. These experiments took place in San Carlos, *Costa Rica;* Esteli, *Nicaragua* and Los Santos, *Panama.*

CATIE worked on experimental tasks along research lines, and obtained information in low wet tropical areas on wood legumes planted in rows as a source of nitrogen for beans and other alternating crops. Seven annual cycles were harvested, with beans responding as of the second cycle and maize as of the third. Beans planted in soils with high magnesium and aluminium content also produced high yields when two tons of lime were applied. Similar results did not occur in high acid soils with low aluminium saturation levels.

As an important step toward improving the design of these improved crop systems, several studies addressed the modeling of crop system behavior. The most outstanding of these were studies of weeds such as paspalum, which was controlled when in competition with agressive legumes. In a similar fashion, experiments to evaluate herbicides continued on different crop systems in order to determine which were the most efficient.

The process of evaluating and managing genotypes progressed with work on the introduction, observation and selection of variety components for systems of photosensitive maize-sorghum, maize-bean shrub, voluble maize-bean, and bean-bean. In 52 tests, 13 were used as controls for 10 sorghum varieties, selected during three years of study.

Work continued with respect to the characterization, dynamic follow-up and validation of alternative technologies to identify, describe, quantify and evaluate the conditions and physical, biological and socio-economic restrictions affecting the farm system, as well as the production subsystems most relevant to Central America. This work will enable their functioning to be understood with respect to input and product flow, facilitating mechanisms for the transfer of technology.

During 1984, research on tropical roots and plantains was consolidated, especially with edible araceans (**tiquisque** and **ñampi**) and plantain (AAB), which included evaluation of genotypes resistant to Black Sigatoka. These species were also the object of *in vitro* research in the tissue culture laboratory. Under development in this laboratory is a technique for cultivating meristems and accelerated propagation of **tiquisque** and the rapid mass propagation of plantain varieties (**Pelipita** and **Saba**), resistant to Sigatoka.

Under meristematic cultivation in the tissue culture laboratory are 50 percent of a cassava collection and, developed from somatic embryons, 20 percent of a sweet potato collection. Work continued on the cultivation of coffee micro cuttings, resulting in satisfactory seedlings ready for planting in the field. The cultivation of embryons proved that seedlings are able to thrive in artificial conditions, making fragmentation of embryons a good method of somatic propagation.

In the field of Phytogenetic Resources, an analysis of 15 397 introductions carried out since 1943 revealed that 10 034 are for use as foods, 1 763 as stimulants and 2 862 for industrial use. The introduction and maintenance of different species collections were continued —the most notable being *Capsicum, Bactrics gasipaes, Anonaceas* and *Sapotacceas,* avocado, annatto and various species, using techniques for the short—, medium- and long-term conservation of different tropical seed collections. Over 780 seed samples from different species were stored, 950 samples of which were sent to interested parties and institutions in and outside Central America.

A total of 19 experiments were conducted with cacao to evaluate 121 promising hybrids for their resistance to Moniliasis. Studies on heredity, planting densities, thinning of cacao and clone and hybrid phenology were continued. In *Belize, Costa Rica, Guatemala, Honduras, Saint Lucia, Panama* and the *United States,* a total of 2 730 000 seeds were distributed, products of hybrid and open pollination.

Animal Production

Research and training activities developed by the Department of Animal Production during 1984 were based on cooperative projects that the Center has with ROCAP-AID and IDRC. Both projects are oriented toward the study of Animal Production Systems in 12 different areas of the Central American isthmus. The objective is to gather necessary descriptive information for the predominant production systems, and to formulate alternative technologies that promote increased productivity in traditional systems, improving the well-being of producers who depend on these systems.

CATIE's teaching activities are an important medium for the transfer of technology.

The cooperative ROCAP-AID project includes studies on production systems for small farms and minor species. This has produced a technological alternative that, besides overcoming the critical problem, affords a significant increase of physical and economic productivity in each Member State.

The central problem that must be overcome is the negative impact of drought on livestock production. Emphasis was placed on studies of supplementary nutrition during the summer season. Work was concluded on forage legumes used fresh or in silage. In a similar manner, legumes offering possibilities for multiple use as forage, firewood and live fences were studied. The combined production of *Leucaena leucocephala* with maize for silage is a good example. Based on the results obtained, work was begun on the phase of formal transfer of resulting technological alternatives, carried out through field trips in each country, providing producers and specialists in each region with the developed expertise.

Activities with minor species focused on goat and swine production, analyzing characterization studies of small farms already raising these animals in different areas of *Costa Rica, Guatemala, Honduras* and *Panama.* The information obtained facilitates the formulation of specific plans for the development of applied technologies for the promotion of goat and swine production.

In a similar manner, specific research on the systems' components focused on swine feeding, testing new sources of energy such as bananas, sugar cane, malanga and yams. It was concluded that there was little difference in the use of these foods as long as there was an adequate protein supplement. Research continued on the use of tree foliage as food for goats, especially coral tree (*Erythrina* sp.) and *Gliricidia sepium.* Both species are known to be good protein supplements.

The project for Animal Production Systems, financed by IDRC, concluded its information processing on production in farms with limited resources in the following four regions of *Costa Rica:* Perez Zeledon, San Carlos and Guacimo-Pococi. The data obtained indicates a relationship between the ecological environment and the production system, making this a determinant factor in systems practiced in each region.

The regions under study contain four life zones with two different mean annual biotemperature regimes (17-24°C and 24°C). Dual purpose systems are found in life zones of the humid tropical forest and wet tropical forest, which has a mean annual biotemperature higher than 24°C. This stands in contrast to specialized systems of milk production in wet premontane zones and premontane rain forests, with mean annual temperatures of 17-24°C. Only seven percent of the farms studied in zones with the highest biotemperatures have specialized dairies.

Work continued in the Department of Animal Production on experimental cattle farms (located in Turrialba, *Costa Rica*), constituting important support for the continuation of activities oriented toward the generation of information on dairy prototypes, both specialized and dual purpose. Studies on tropical pastures and genetics in dairy and beef cattle herds were supported by these efforts. Progress made in the breeding of Polled Sinú cattle, as evidenced by their fertility and ability to adapt to the tropics, should make them a technological alternative for ranchers raising beef cattle in the American Tropics.

An intensive dairy production prototype has been operating for seven years. An average of 10 000 kg of milk was produced per hectare, resulting in a net profit for the producer of five times the minimum wage for the zone, based on an average-sized farm of 4.4 hectares. Activities with dual purpose prototype continued as scheduled. It was concluded that the element of decision-making by the farmer is essential in order to obtain improved results with this kind of system.

Renewable Natural Resources

During 1984 the Department of Renewable Natural Resources consolidated its different programs and projects with an external evaluation, which began as a detailed study of ten years of Department activities. Presently, these activities form part of three programs: Silviculture, Agroforestry Systems and Wildlife and Watershed Management. Two services completed the activities of the department: Forestry Information for Latin America (INFORAT) and the Latin American Forestry Seed Bank (BLSF).

The Silviculture Program advanced studies of highland forests in order to classify the existing vegetation. In the Peruvian and the Alto

Beni Amazon (Bolivia), silviculture studies were implemented, and medium- and short-term consultancies were provided for forestry projects.

Furthermore, the Silviculture Program developed diverse activities within the Fuelwood and Alternative Energy Sources Project, which recorded information on the costs of forest plantations and fuelwood extraction in all of the countries in the area. The silviculture project worked on 213 supervised test plots and 694 individual plots, emphasizing biomass quantification to determine the amount of real dry weight produced. The Program also completed 921 demonstration units for agroforestry and fuelwood production.

In the area of tree improvement, work continued to establish sites for different forest species and to evaluate origin assays. Information was obtained on the rate of germination of *Cordia alliodora* (laurel), which appears to be under strong genetic control, since seeds from dry zones germinate more rapidly than seeds from rainy zones. However, no difference was found in seed yields.

The Program for Agroforestry Systems collected additional information on more than 300 traditional systems employed in Latin American countries. This action was part of a worldwide effort coordinated and financed by the International Council for Agroforestry Research (ICRAF). The data will serve to orient future research toward agroforestry systems with the most development and transfer potential. As part of a related project to improve systems for land use, cooperation was provided to the Wildlife Areas Program, which in turn provided advisory services to the Kunas Indians in *Panama,* to establish agroforestry production and protection zones as a national park.

Work on agroforestry multiple cropping studied diverse combinations of tropical grasses with other species in order to facilitate the use of certain systems for animal production. In the case of the grass-guava system, it was determined that grass production beneath the trees was less than 20 percent, although there was no noticeable change in the flowering of the grass. In the *Erythrina poeppigiana* star grass (*Cynodon nlemfuensis*) system it was noted that the presence of 400 *Erythrina poeppigiana* trees, pruned twice a year, enabled the biomass production of the grass to increase 76 percent.

In dense populations (over 60 000 plants per hectare) the above species accumulated 35 tons of dry matter after 15 months of planting, of which 13 percent were leaves. The outgrowths produced 8 metric tons of dry leaf matter annually, with no noticeable soil exhaustion.

The Program for Wildlife Areas and Watersheds extended its technical cooperation through 41 pilot projects distributed in 12 countries. Those projects involved the selection, planning and implementation of a wide variety of alternative wildlife area uses within the context of integrated rural development, including biosphere reserves, national forests, multipurpose areas, national parks and cultural monuments.

The Regional Watershed Management Project, financed by ROCAP-AID, was initiated. Its activities focused primarily on updating watershed management needs in each of the countries involved, in order to elaborate lines of action to develop a joint agreement with national institutions.

During this period, the Latin American Forestry Seed Bank made 218 entries of 96 species as a result of its own collection efforts and exchanges with other institutions. A total of 865 lots were sent to 70 institutions in 37 countries, implementing the systematic collection of *Calliandra calothyrsus* and *Gliricidia sepium* seeds for international testing. The Latin American Forestry Information Service was reorganized into two main areas, editorial services and documentation services, to support the Department's Projects and Programs.

Resource Development for Research and Education

The Department of Resource Development for Research and Education underwent a number of changes during the course of the year, attributed to the move toward a new departmental structure. It transferred a group of technical and service units to the Department most closely associated with its functions, and concentrated complementary and support actions on the Center's Departments, especially in the area of Human Resources Development.

In this area, formal training at the Masters level was developed through the Graduate Studies Program in Agricultural Sciences and Natural Resources, while short-course training and specialization

were developed through short-term events financed by different funding sources supporting the Center.

The Graduate Studies Program graduated a total of 23 students and admitted 26 others: four in Animal Production, 11 in Plant Production, and 11 in Renewable Natural Resources. These, when added to previous years, form a student body of 60 professionals coming from: *Argentina* (1), *Belize* (1), *Bolivia* (1), *Colombia* (7), *Costa Rica* (21), *Chile* (1), *Ecuador* (1), *El Salvador* (1), *Guatemala* (6), *Haiti* (1), *Honduras* (4), *Mexico* (6), *Nicaragua* (3), *Panama* (2), *Peru* (2), and the *Dominican Republic* (2). All of the students were enrolled in the Magister Scientiae program with scholarships from the *United Kingdom, Holland,* ROCAP-Fuelwood Project (USA), AID (USA), International Agricultural Development Fund (FIDA), DSE (Germany), IDRC (Canada), ACRI (USA), IICA, and scholarships from their respective countries.

A total of 220 applications were received in 1985. A total of 70 will be selected, of which 40 will receive scholarships from the

The development of in vitro reproduction techniques for different tropical species is the basis for massive and homogeneous propagation of selected improved crops. Laboratory at CATIE.

aforementioned institutions and other organizations supporting higher agricultural education.

CATIE worked on short-course training and specialization by developing 40 events in diverse subject areas of the agricultural forestry sector, which were broken down into nine international courses, attended by 200 specialists who, for the most part, came from the Member States; 14 national courses in the *Dominican Republic, Guatemala, Panama, Honduras, Nicaragua, Costa Rica* and *El Salvador,* attended by 363 participants, and 17 in-service training sessions for 35 specialists from different countries in the region. A total of 30 percent of these activities were programmed by the Agricultural Training Project, financed by the W.K. Kellogg Foundation. The remaining 70 percent were financed by the cooperative projects that CATIE maintains with several international institutions, such as: GTZ, IDRC, AID-ROCAP, FIDA, FAO, UNESCO, WWF, DDA, UNU and IICA.

Of the total number of national and international activities referred to above, 14 were under the technical responsibility of the Department of Plant Protection, 19 under the Department of Renewable Natural Resources, six under the Department of Resources Development for Research and Education and one under the Department of Animal Production. This does not include the various meetings and field trips conducted in each country. In 1984 CATIE published 110 documents ranging from scientific articles to theses, texts and materials for teaching and distribution purposes.

chapter IV
International Relations

Introduction

This chapter briefly summarizes activities conducted outside the Institute to promote, encourage, maintain, and implement cooperative or complementary relations with IICA's governing bodies; the governments of the Member States and their institutions; the organs and agencies of the Inter-American System; regional and subregional organizations; organs and agencies of the United Nations System; the governments and institutions of the Permanent Observers, and other international public service institutions.

These actions are governed by basic agreements which formalize relations with the Member States; general agreements with national or international institutions which establish a framework for future cooperative actions; operating agreements, and contracts or letters of understanding for making these

relations operational. Very often, these relations produce the funds needed to finance technical cooperation projects, which strengthen the Institute's regular action in benefit of its Member States.

In order to facilitate and increase the effectiveness of these relations, IICA participates as an Observer before the governing bodies of internacional organizations of the Inter-American and United Nations Systems; it sponsors and organizes international gatherings and meetings to promote agriculture and rural development and, in addition, maintains direct contact and conducts special missions with heads of governments and national or international institutions interested in IICA's work.

The General Directorate focuses special attention on projecting the Institute's image, by providing high quality technical services, disseminating the results of its projects in the media and making significant contributions at international events.

Governing Bodies

The Fourth Regular Meeting of the Executive Committee, held at IICA's Central Office in San Jose, Costa Rica, from December 2 to 7, 1984, provisionally approved and put into effect IICA's Proposed Financial and Staff Rules. The Classification Standards for IICA Personnel and the System for the Determination of Remuneration for IICA Personnel were also approved *ad referendum.*

The implementation of these administrative tools will guide the General Director's operation of the Institute and reinforce IICA's ability to make its services available to the inter-American community.

The Fourth Regular Meeting of the Executive Committee was attended by representatives from twelve Member States: *Argentina, Colombia, Costa Rica, Dominica,* the *Dominican Republic, Ecuador, El Salvador, Jamaica, Paraguay, Trinidad and Tobago,* the *United States of America* and *Venezuela.* The following Member States were present as Observers: *Bolivia, Brazil, Canada, Chile, Mexico, Nicaragua, Panama, Suriname* and *Uruguay.*

The meeting was also attended by representatives from the following Permanent Observer countries: the *Federal Republic of*

Germany, Israel, Italy and *Spain,* and by representatives from IDB, OAS, PAHO, CATIE, SIECA, CREFAL, and ILO.

AGENCIES OF THE INTER-AMERICAN SYSTEM

General Secretariat of the Organization of American States (OAS)

IICA-OAS Understanding on Agricultural and Rural Development

In compliance with Resolution IICA/JIA/Res.28(II-0/83) of the Inter-American Board of Agriculture, the Director General of IICA communicated this Resolution to the General Secretariat of the OAS. The Ministries of Agriculture of the Member States were also informed, to ensure continued support for hemispheric agricultural and development programs.

Meeting of the OAS General Assembly

IICA participated in the Tenth and Eleventh Special Sessions of the General Assembly, held in March, 1984 in Washington, D.C., and in the Fourteenth Regular Session, held in Brasilia, in November of the same year. The latter was attended by IICA's Director General.

Inter-American Commission of Women (IACW)

In accordance with Resolution IICA/JIA/Res.42(II-0/83), the Institute provided maximum support to the IACW for the celebration of the Inter-American Seminar to Evaluate the United Nations Decade for Women, held in Cordoba, *Argentina,* in July of 1984.

IICA's technical specialists were actively involved in organizing and conducting the seminar, and presented the document "Support for Rural Women during the Decade and Case Studies of Projects in *Honduras, Brazil, Colombia* and the *Dominican Republic.*"

A Letter of Understanding was signed with the IACW supporting the incorporation of rural women and the rural family in Latin America and the Caribbean into the agricultural production process.

IICA attended the XXII General Assembly of the IACW, which was held in October, in Washington, D.C.

The Pan-American Health Organization (PAHO)

IICA's Director General informed the Director General of PAHO of Resolution IICA/JIA/Res.27(II-0/83), which stipulates that the Pan American Center for Foot and Mouth Disease is to remain at PAHO, maintaining contact under a special agreement with IICA. A document was subsequently prepared to ensure adequate coordination and appropriate operating mechanisms between the two institutions to develop additional joint activities in animal health through the Center.

The Inter-American Development Bank (IDB)

During 1984 contacts were continued with IDB officials in Washington and at its Regional Offices, to ensure the continuity and coordination of inter-American technical and financial cooperation to benefit agricultural development in the member countries and to identify new opportunities for cooperation.

IICA and IDB worked together, and:

a. A new Agreement with IDB was signed in August of 1984, ensuring the continuity of the Cooperative Agricultural Research Program for the Southern Cone; IICA remained as the Program's executing agency, responsible for providing the funds approved by the Inter-American Board of Agriculture, as per Resolution IICA/JIA/Res.26(II-0/83).

b. Addendum No. 1 to the Technical Cooperation Agreement between IICA and IDB was signed for the implementation of a Technical Cooperation Program to develop agricultural projects (ATN/SF-1957-RE).

   Negotiations with IDB were launched in 1984 to reach a second phase of technical cooperation for the formulation of projects in the countries through the Unit for Project Preparation (UPP), which was financed under Agreement ATN/SF-1957-RE. IICA has received full support from the Governments to continue these efforts.

c. A Letter of Undertaking was signed to implement a study on the efficiency of the agricultural sector and to implement a financial and economic evaluation of the Seventh Phase of the Agricultural Credit Program of the National Bank of *Costa Rica.*

TABLE OF LEGAL INSTRUMENTS AGREEMENTS, CONTRACTS AND LETTERS OF UNDERSTANDING FILED BY THE LEGAL ADVISOR, CENTRAL OFFICE 1984

Member State Signatories	Number
Argentina	9
Bolivia	5
Brazil	43
Canada	3
Chile	6
Colombia	4
Costa Rica	7
Dominican Republic	5
Ecuador	1
El Salvador	1
Guatemala	4
Guyana	3
Honduras	1
Jamaica	2
Mexico	2
Panama	2
Paraguay	4
Peru	6
United States of America	15
Uruguay	2
Venezuela	3
Others	
Special Scientific, Educational or Social Agencies	4
International Centers:	
International Center for the Improvement of Maize and Wheat (CIMMYT)	5
Latin American and Caribbean Center for Youth (CLACJ)	1
Multinational (signed by more than one Member State)	2
Observer Countries:	
Spain	1
France	1
Other Countries:	
Kenya	1
Inter-American System:	
Inter-American Commission of Women (IACW)	1
Inter-American Development Bank (IDB)	1
United Nations System:	
Economic Development Institute (EDI)-World Bank	3
FAO Regional Office for Latin America and the Caribbean (FAO-RLAC)	1
International Bank for Reconstruction and Development	1
Total	150

Note: This table contains all the legal instruments filed by the Legal Advisor of the Intitute in 1984 and includes Basic Agreements, General Agreements and Agreements governing specific projects funded with Quota and External Resources.

d. A Letter of Undertaking was signed to implement a financial and economic evaluation of the Banco Cooperativo Costarricense (BANCOOP) Credit Request.

e. A Letter of Undertaking was signed to implement a financial and economic evaluation of the Arenal-Tempisque Irrigation Project of the National Irrigation and Drainage Service (SENARA), in *Costa Rica.*

f. The Director General and Assistant Deputy Director General for External Affairs were part of IICA's delegation participating in the XXV Annual Meeting of the IDB Governors Assembly, held in Punta del Este, *Uruguay,* in March 1984.

REGIONAL AND SUBREGIONAL ORGANIZATIONS

The following is a summary of IICA's cooperation activities conducted with important regional and subregional organizations.

Latin American Energy Organization (OLADE)

During 1984, IICA and OLADE engaged in joint activities in the countries. These activities involved working with alcohol fuel and the rational use of energy in the sugar industry.

Several joint coordination activities were established between the SIELA (OLADE) and CIDIA (IICA) documentation and information systems, and a process to determine the agroenergy potential of the Member States was made possible by the distribution of the "General Guide for the Preliminary Evaluation of Bioenergy Potential," so as to compile the necessary data.

IICA developed the "Project Profile for Research on Agroenergy Potential in Latin America and the Caribbean," and made it available to OLADE. Said project is being reformulated by the joint development of a project profile on the evaluation of the potential of forest resources and sugar cane industry byproducts.

Efforts are well underway to develop a project profile for the promotion of agroenergy systems at Agriculture and Forest Training and Research Centers. These efforts are part of a strategy to disseminate said systems at the subregional level in the Caribbean, Central,

Andean and Southern Areas, to obtain non-refundable resources for feasibility studies. Both projects will be promoted in 1985.

IICA participated in the XIV Meeting of Experts and the XV Meeting of OLADE Ministers, held during September and October of 1984 in Managua, *Nicaragua.*

The Latin American Association for Integration (ALADI)

Relations leading to concrete actions in areas of mutual concern were enhanced as a result of the General Cooperation Agreement signed by IICA and ALADI during 1984.

The Latin American Economic System (SELA)

SELA's Action Committee for Regional Food Security (CASAR) and IICA began cooperation efforts to support CASAR through projects and activities implemented by the Institute to ensure food security in each country and on a regional scale. These projects and activities involve food security programs for *Central America, Panama* and the *Dominican Republic;* the reduction of post-harvest losses; hemispheric food security, and an Inter-American information network on harvests, prices and the availability of foodstuffs.

In August 1984, the Intitute attended CASAR's Second Regular Meeting held in Buenos Aires, *Argentina,* as an Observer.

Latin American Association of Financial Institutions (ALIDE)

IICA and ALIDE began negotations for a joint program to disseminate the experience gained in preparing farm level projects in the IICA-National Bank of *Costa Rica* Program, to all members of the Association.

Board of the Cartagena Agreement (JUNAC)

IICA and the Board of the Cartagena Agreement signed a General Cooperation Agreement on April 13, 1984 to promote integration in the Andean Subregion by increasing the exchange of products and services and agricultural production, to protect its crops and its herds from pests and diseases, and to strengthen its sectoral institutions.

Efforts for cooperation were implemented in the following areas: planning and management of agricultural development, renewable natural resources, information and documentation, animal health, agricultural and forest products, food security, and the generation and transfer of technology.

Within the framework of this General Agreement, both intitutions implemented a series of very important activities during 1984.

Since 1984, IICA's Hemispheric Food Security Project developed a close working relationship with JUNAC initiated by the Project Head's visit to Lima to coordinate IICA's actions and JUNAC's activities in the Andean Region.

At IICA's request, a meeting, sponsored by the OAS and JUNAC, was held in June of 1984. Technical specialists from the agricultural and nutritional sectors of the Andean Group were present. Common methodological criteria used to diagnose the food situation in these countries were studied and agreed upon, as were pertinent national plans or programs for food security.

IICA held further conversations with interested national authorities in *Bolivia* and *Ecuador,* to help implement necessary studies and prepare respective national food security plans, in accordance with the methodologies agreed upon at the meeting in Lima.

IICA and JUNAC also worked to organize the III Meeting of the Contracting Committee of the Andean Program for Technological Development of Rural Areas (PADT-Rural), held at IICA's Office in Caracas, *Venezuela,* in 1984. Likewise, IICA attended the IX Meeting of the Agricultural Council of the Andean Group, held in Lima, *Peru,* in October of 1984.

Amazon Cooperation Treaty (TCA)

The Amazon Cooperation Treaty, signed on July 3, 1978, involved *Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname* and *Venezuela.* The Ministers of Foreign Affairs met in Belem, *Brazil,* and signed the Declaration of Belem on October 24, 1980 defining regional development policies and establishing the directives required to implement the treaty based on mutual cooperation among the Amazon countries, especially in terms of joint research, information exchange, and the training of experts and other specialists.

Since its creation, IICA has been working to promote agricultural and rural development in the American Tropics, especially in the Amazon region. Accordingly, it has been particularly interested in working with the Treaty and cooperating closely to implement its objectives and actions in the agricultural sector.

The IICA-Tropics Project has, at the same time, worked to promote actions with the Member States, to strengthen direct, bilateral or multinational technical cooperation among the countries in the region, through activities agreed upon with the signatory countries.

The following actions have been implemented as part of the efforts to work more closely with the Treaty:

a. The preparation of technical cooperation guidelines for the development of agriculture in the Amazon countries, presented to the Ministers of Foreign Affairs of the Treaty's signatories in October 1980.

b. In compliance with Resolution No. 53 of the Second Regular Meeting of the Inter-American Board of Agriculture, held in October 1983, the Institute presented the representatives from the countries with a project profile for restructuring the IICA-Tropics Program. IICA took the opportunity to convoke a meeting on revitalizing the IICA-Tropics Project, to be held in Brasilia, *Brazil,* from July 16 to 18, 1984, in which the countries' delegates were informed of the contents of the Resolution and the relations and efforts existing between the IICA-Tropics Project and the Amazon Cooperation Treaty.

c. Participation as Observer in the First International Seminar on Agriculture in the Amazon countries, held in Belem, *Brazil,* in November of 1984. This Seminar approved Recommendation No. 6, designating IICA as spokesman and Executive Secretary of the joint research programs developed for the Amazon area.

d. Participation as Observer at the First Scientific and Technological Gathering of the countries of the Amazon Cooperation Treaty, held in Belem, *Brazil,* in November of 1984.

ORGANIZATIONS OF THE UNITED NATIONS SYSTEM

The following efforts for technical cooperation with organizations of the United Nations System were promoted by IICA:

World Bank (IBRD)

IICA signed a Memorandum of Understanding with the Economic Development Institute (EDI) of the World Bank, to establish the basic guidelines of a training program to be implemented during the 1985-1990 period.

Food and Agriculture Organization (FAO)

IICA participated as an Observer at the XVIII Regional FAO Conference for Latin America and the Caribbean, which was held in August, in Buenos Aires, *Argentina.* The occasion also served to strengthen existing ties between the two institutions and to program joint activities at the regional level.

Another Letter of Understanding was signed, in September of the same year, between IICA and FAO's Regional Office to determine institutional contributions for the Meeting of the *Ad-hoc* Group for the Development of Plant Protection Activities and to Strengthen Cooperation in Latin America and the Caribbean.

United Nations Development Program (UNDP)

An agreement was signed to support preparation of a project for agricultural and rural development in *Central America* and *Panama.*

International Agricultural Development Fund (IFAD)

Joint participation in the RUTA Project was continued for *Central America* and *Panama;* and the talks to establish Project Units similar to RUTA in the English-speaking Caribbean advanced.

Economic Commission for Latin America and the Caribbean (ECLA)

IICA participated at the following meetings organized by ECLA during 1984:

a. The meeting of International Agencies for Coordination of Regional Activities for the International Year of Youth, held in Lima, *Peru,* in March.

b. The Latin American Technical Meeting on Industrialization, held in Santiago, *Chile,* in May.

c. The Eighth Session of the Committee for Development and Cooperation in the Caribbean, held in Port-au-Prince, *Haiti,* in June.

OTHER INSTITUTIONS

This section includes all of IICA's cooperation efforts with important institutions that are involved in significant programs to develop agriculture and rural well-being in IICA's member countries, but which do not fall under the previous categories of this Report.

International Center for the Improvement of Maize and Wheat (CIMMYT)

IICA and CIMMYT signed a two-year agreement to develop joint actions in *Chile* in the field of agricultural research, which focused on the supply and testing of genetic materials and on the training of *Chilean* specialists. A Specific Agreement was signed between the two institutions to develop joint agricultural research actions in *Paraguay,* focusing on the supply and testing of genetic material, and on the training of *Paraguayan* specialists.

CIMMYT specialists were instrumental in making significant contributions to the Program for Regional Cooperation for Agricultural Research, which IICA is implementing in the Southern Cone with financial support from IDB.

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

IICA signed a Technical Cooperation Agreement with the Institute for Coffee and Cacao Research (IRCC) of CIRAD. The Agreement is part of IICA's cooperative activities with the *French* Studies and Research Institute for Tropical Agriculture, which seeks to define the terms of cooperation between IRCC and IICA-PROMECAFE, in its effort to protect and modernize coffee cultivation. The Agreement focused on studies and research efforts on coffee plant improvement and protection, and on the training of IICA-PROMECAFE specialists from the member countries engaged in the Program.

The Latin American and Caribbean Center for Youth (CLACJ)

A General Technical Cooperation Agreement was signed with this Center to develop: the reciprocal exchange of information and docu-

mentation on Rural Youth Programs, research, and the promotion, design and approval of methodologies for promotion, production and service.

International Council for Agroforest Research (ICRAF)

Within the framework of the General Agreement currently in force between IICA and ICRAF, a Letter of Understanding was signed in 1984 with the Council to develop a course on agroforest research, scheduled for June 1985 in Yurimaguas, *Peru.*

IICA's participation in the course development began in 1984, through the Central Office and the Institute's Offices in *Bolivia, Brazil, Colombia, Ecuador, Peru* and *Venezuela,* the countries participating in said course. The Institute's role is to assist in the selection of participants and the preparation of the document to be presented to each country.

Commonwealth Development Corporation (CDC)

A Letter of Understanding was signed for the undertaking of prefeasibility studies for a palm oil processing plant in Coto Brus, *Costa Rica.*

GOVERNMENTS AND INSTITUTIONS OF OBSERVER COUNTRIES

Spain provided IICA with eight cooperants of Spanish nationality to start work on Institute projects in 1983. These cooperation efforts have produced very positive results, and prompted a demand, on the part of Office and Program Directors, for 43 specialists for 1985. In addition, three specialists from the *Spanish* Integrated Cooperation Plan for Central America arrived in October to work in *Costa Rica* in regional projects (two in the field of rural youth, and one in marketing). The joint IICA-Ibero-American Cooperation Institute commission was set up, to propose fields of action of mutual concern. In October, a General Technical Cooperation Agreement was signed between the Universidad Politécnica de Madrid and IICA.

The Cooperative Research Project on Agricultural Technology in Latin America (PROTAAL) was concluded. Its second phase was financed almost entirely by the Government of *Holland.* A project

was prepared in *Nicaragua,* to be implemented in 1985, using the remainder of the IICA-Holland Project funds.

In 1984, the *French* Government continued its assistance to IICA to work on and support the following programs: Agroclimatic Zoning for Latin America and the Caribbean, under the cooperation agreement between IICA and the French Institute for Scientific Research on Development through Cooperation (ORSTOM), the Regional Cooperative Program for the Protection and Modernization of Coffee Cultivation (PROMECAFE), under the cooperation agreement between IICA and the Coffee and Cacao Research Institute (IRCC) of the International Cooperation Center on Agronomical Research for Development, and the provision of human, financial, and training resources for the FORGE program (Strengthening of the Managerial Skills of Agricultural Production Associative Enterprises), which is supported by the European Economic Community (EEC).

ACTIVITIES CARRIED OUT BY THE IICA MISSION IN THE UNITED STATES OF AMERICA

The matters of greatest concern to IICA in that country were the conciliation of criteria, the agreement on operational and programming procedures, and the bilateral negotiation of subjects of mutual concern and interest. In order to implement an agreement-reaching policy, a bilateral consultation mechanism was established in May 1984, between the *United States of America* Permanent Mission to the OAS-Department of Agriculture and IICA.

Numerous working sessions were held, primarily on AID Rural Development, Science and Technology Programs, and several motions were made before AID on cooperative projects currently in progress, as well as support action for new activities. Contacts and meetings have been encouraged with BIFAD; and IICA requested, together with CATIE, to be placed on BIFAD's roster of agencies which may submit projects for funding with monies as per the amendment to Title XII of the Constitution of the *United States,* under AID management. By the end of 1984, the acceptance of that request was communicated by BIFAD, thus opening up interesting prospects for new projects.

ACTIVITIES CARRIED OUT BY THE IICA MISSION IN CANADA

IICA's Office in *Canada* completed its first calendar year in operation since its formal inauguration in October 1983. As indicated by initial contacts, IICA action is little known in Canada, and consequently, the dissemination of institutional information on IICA has become a priority for this Office. Its activities have included contact with local institutions, such as the Canadian Council for International Cooperation (CCIC); the Agricultural Institute of Canada (AIC); the Canadian University Service Overseas (CUSO); the Canadian Executive Service Overseas (CESO); the Association of Universities and Colleges of *Canada* (AUCC), and schools of agriculture at the university level. Likewise, formal relations were maintained with the Ministries of External Affairs and of Agriculture, as well as Canadian universities.

chapter V

Human Resources

Introduction

In 1984 IICA consolidated the measures taken to restructure the internal organization of the Directorate of Human Resources and to revise its operational procedures, for the purposes of rendering the management of these resources within the Institute more efficient and more flexible.

The objectives established within this new approach basically call for a revision and update of a technical nature, to facilitate the development of new policies and systems for personnel management. Increased efficiency is sought through personnel development, the maintenance of high working morale, the design of equitable remuneration systems, which are both competitive and flexible, and the creation of a process to recruit and select technical personnel which affords immediate access to sources of highly qualified candidates, as well

as appropriate assignment thereto of the different tasks being carried out by the Institute.

Progress Made

The Directorate of Human Resources focused its attention on the revision of the procedures and standards currently in force; this task had been initiated the year before, for the purposes of gradually introducing the most appropriate modifications and improvements, given the experience and growing importance of the Institute.

The overall revision of the pertinent policies and instruments comprised job classification and appraisal systems for professionals, a system for determining remuneration and benefits, a system for evaluating performance, standards, rules and regulations governing the foregoing, and other technical and administrative aspects which aim at ensuring superior service on the part of the unit. In response to needs for human resources as per the organizational chart and the new Programs approved by the JIA, qualified personnel were contracted and internal transfers were effected which sought to place employees in positions which were more in keeping with their professional skills and experience, and with the Institute's objectives, as established by its governing bodies.

An attempt was made to improve the systems for recruiting, selecting and classifying personnel through careful analysis of the qualifications of the candidates for the vacant posts for professional personnel, both local and international. This effort received the support of an advisory group from the Office of the Director General, denominated the Personnel Committee, presided over by the Deputy Director General and composed of the three Assistant Deputy Directors General and the Director of Human Resources.

In accordance with said objective, the Unit proceeded to keep an updated Bank of Applicants, which includes offers of services, *curricula vitae* and other information concerning professional personnel, at the local and international levels, and general services personnel.

In order to fill local vacant posts, at both the professional and general services levels, the Directorate of Human Resources, in compliance with Article 39 of the Rules of Procedure of the General Directorate of IICA, first made personnel within the Institute aware of said openings, so that they might have the opportunity to

advance. Likewise, those employees from General Services having completed their studies at the university level were delegated additional responsibilities to perform more sophisticated tasks. They were also given the opportunity to rise to the category of Local Professional Personnel.

In terms of incentives for improving and updating professional skills, financial assistance was made available to allow personnel registering similar requests to continue their studies in their particular line of work. In addition, specialized courses were organized which were specifically geared toward perfecting secretarial skills. Throughout the period, the Directorate of Human Resources conducted studies to improve its administrative procedures via electronic data processing.

In order to ensure the maintenance of an appropriate benefits policy, the salary scales for local personnel in each member country were adjusted periodically, taking into account certain technical criteria generally applied in these instances and information concerning increases in the cost of living procured from official statistics, as well as pertinent legislation in the countries.

A permanent file was kept of the changes in post adjustment factors and scales for per diem used by other international organizations, for the purposes of evaluating IICA's relative position and formulating pertinent recommendations.

Specific, yet diverse instructions were drawn up and issued to the IICA Offices in the countries to effect systematic market studies of prevailing salary conditions. This made existing information more complete and more uniform. It also ensured a further degree of reliability.

The responsibility of the Directorate of Human Resources in specific aspects of the domain, whose revision was requested by the governing bodies of the Institute, called for serious efforts in the preparation, discussion, technical supervision and translation of documents submitted by the Director General to these bodies.

Efforts were also launched to maintain an ongoing dialogue with the Staff Association, by analyzing the different issues deemed worthy of consideration, particularly those concerned with changes to be implemented with respect to rules and regulations.

Human Resources in IICA

In accordance with that which has been established by the pertinent Rules, IICA personnel are divided into three categories: International Professional, Local Professional and General Services. Table No. 1 shows the distribution of human resources in these three categories, as of 31 December 1984, and indicates the source of funding used to cover the cost thereof.

Table No. 1 reveals that 57 percent of the 960 persons employed by IICA on the continent are paid with quota resources, 31.93 percent of whom are International Professional Personnel. It furthermore reflects that IICA employs 675 persons in the countries in the categories of Local Professional and General Services Personnel, who, in turn, account for 70 percent of Institute personnel.

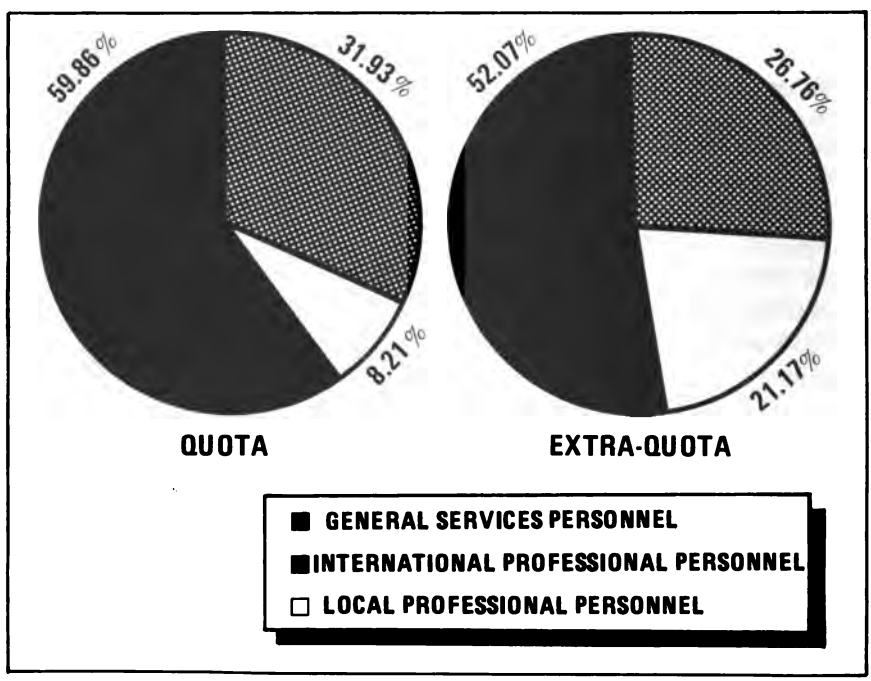


Fig. 1. Human resources in IICA by category and source of funding.

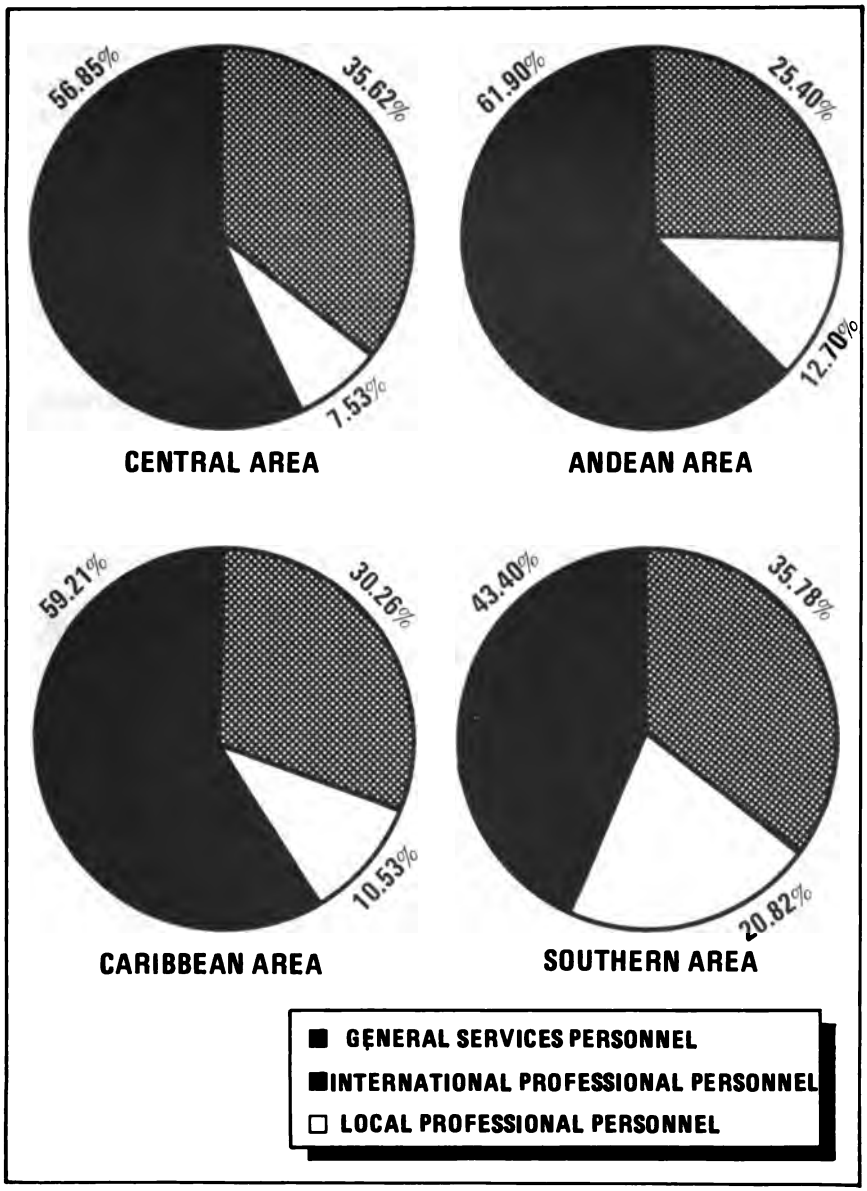


Fig. 2. Geographic distribution of IICA's human resources by area.

The Rules of Procedure of the General Directorate also make a fourth distinction within the category of International Professional Personnel, namely Associate Personnel, composed of Professionals not paid by IICA and appointed to perform technical and scientific functions at the professional level, under the agreements and contracts entered into with other Institutions participating in programs of mutual interest. As of 31 December 1984, there were 105 persons working as Associate International Professionals in IICA.

Table No. 2 shows the geographic distribution, by areas and countries, of the three categories of personnel, and the pertinent source of funding. It also reflects the number of persons working in the Central Office and those assigned to the Tropical Agriculture Research and Training Center (CATIE).

Table No. 2 also reveals that, as of December 1984, the percentage of International Professional Personnel working at the Central Office only totalled 26 percent of total personnel in this category in the Institute. This is particularly significant, as it reflects the administration's constant concern for placing International Professional Personnel in those countries where actions are being undertaken.

Table No. 3 shows the distribution of IICA personnel, as of 31 December 1984, by nationality and category.

TABLE No. 1. Human resources in IICA, by category and source of funding.

Category	Quota	%	Extra-quota	%	Total	%
I.P.P. – International Professional Personnel	175	31.93	110	26.76	285	29.69
L.P.P. – Local Professional Personnel	45	8.21	87	21.12	132	13.75
G.S.P. – General Services Personnel	328	59.86	215	52.18	543	56.56
Subtotal	548	100.00	412	100.00	960	100.00

As of 31 December 1984.

TABLE No. 2. IICA personnel by area, country and category as of 31 December, 1984.

	Local Professional Personnel		General Services Personnel		International Professional Personnel		Total
	Quota	Extra-quota	Quota	Extra-quota	Quota	Extra-quota	
Area 1 (Central)							
Costa Rica	2	5	13	3	10	2	35
Dominican Republic	–	–	8	4	7	–	19
El Salvador	–	–	3	3	4	1	11
Guatemala	–	–	9	3	6	–	18
Honduras	1	1	11	3	6	1	23
Mexico	1	–	7	–	5	–	13
Nicaragua	–	1	9	1	4	–	15
Panama	–	–	4	2	6	–	12
Subtotal	4	7	64	19	48	4	146
Area 2 (Caribbean)							
Barbados	–	–	5	–	5	–	10
Dominica	1	–	1	–	–	–	2
Grenada	2	–	4	–	–	–	6
Guyana	1	–	8	–	2	1	11
Haiti	1	3	3	6	2	3	18
Jamaica	–	–	7	1	4	–	12
Suriname	–	–	3	–	2	–	5
Saint Lucia	–	–	3	–	2	–	5
Trinidad and Tobago	–	–	5	–	3	–	8
Subtotal	5	3	39	7	20	4	77
Area 3 (Andean)							
Bolivia	2	–	8	–	5	–	15
Colombia	1	7	13	22	5	2	50
Ecuador	–	1	4	9	6	2	22
Peru	2	2	11	1	6	–	22
Venezuela	–	1	4	6	6	–	17
Subtotal	5	11	40	38	28	4	126
Area 4 (Southern)							
Argentina	1	–	8	–	5	–	14
Brazil	2	64	11	94	8	93	272
Chile	–	1	9	–	5	–	15
Paraguay	2	–	8	7	6	–	23
Uruguay	1	–	7	4	5	–	17
Subtotal	6	65	43	105	29	93	341
Central Office, United States, Canada and CATIE – 31 December 1984							
Cental Office	25	1	138	46	41	4	255
Office in the United States of America	–	–	3	–	6	–	9
Office in Canada	–	–	1	–	1	–	2
Assigned to the Tropical Agriculture Research and Training Center (CATIE)	–	–	–	–	4	–	4
Subtotal	25	1	142	46	52	4	270

TABLE No. 3. Distribution of personnel by nationality and category as of 31 December, 1984.

Nationality	International Professional Personnel	Local Profess. and General Services Personnel	Total	Percentage
Costa Rica	4	230	234	24.38
Brazil	9	167	176	18.33
Colombia	28	42	70	7.29
Peru	34	17	51	5.31
Uruguay	24	17	41	4.27
Chile	25	12	37	3.85
United States of America	27	1	28	2.92
Argentina	16	7	23	2.40
Bolivia	11	12	23	2.40
Venezuela	12	11	23	2.40
Ecuador	8	14	22	2.29
Guatemala	10	12	22	2.29
Honduras	3	17	20	2.08
Dominican Republic	3	13	16	1.67
Mexico	7	8	15	1.56
Nicaragua	5	10	15	1.56
Haiti	1	13	14	1.46
Paraguay	2	12	14	1.46
Jamaica	3	8	10	1.14
El Salvador	4	6	10	1.04
Guyana	1	9	10	1.04
Panama	1	8	9	.94
Grenada	1	7	8	.83
Trinidad and Tobago	2	5	7	.73
Barbados	1	5	6	.63
Canada	4	1	5	.52
Suriname	–	3	3	.31
Dominica	–	2	2	.21
Saint Lucia	–	2	2	.21
Subtotal	246	671	917	95.52
Other countries*	39	4	43	4.48
Total	285	675	960	100.00
Percentages	29.69	70.31	960	100.00

* *Cuba, Belgium, United Kingdom, Spain, Germany, Holland, New Zealand, Japan, Malaysia, Portugal, India, China, France, Sri Lanka, Indonesia, Pakistan, Australia and Egypt.*

chapter VI

Financial Statements
1984

Introduction

The General Directorate, in pursuance of its policy to modify its accounting, budgetary, and financial structure, upgraded the equipment of several operating units by furnishing them with sophisticated microcomputers capable of transmitting and receiving electronic information, thus broadening the scope of its operations, based on the new possibilities offered by these instruments.

A total of 22 pieces of equipment were installed in the Central Office, and eight in the following eight countries: the *United States of America, Mexico, Colombia, Nicaragua, Barbados, Jamaica, Brazil,* and the *Dominican Republic.* By the first semester of 1985, all of the countries should be equipped in a similar fashion, allowing for all 27 countries to automate the programming and control of their resources, as well as strengthen and follow up

on the implementation of projects and programs for technical assistance. While the investment has been substantial, future projections point to a more effective and dynamic IICA at the service of the countries.

Another salient aspect in the financial sphere has been the implementation, on a trial basis, of the Financial Rules. Although it may be too early to assess the relevant aspects of their application, valuable experiences have been gathered which could have a significant impact on the regulation of IICA's financial operations. Worthy of mention is the full use of codified accounting systems for all of IICA's operations figuring in the budget and requiring the use of financial resources. Furthermore, an effort has been made to improve the control and application of Indirect Administrative and Technical Costs (CATIs), in such a way as to prevent the use of other resources in lieu of CATIs; finally, a reduction in the number of requests for the transfer of funds was recorded among the major objects of expenditure, which meant increased efficiency in the use of the sums earmarked in the budget.

Lastly, it was particularly gratifying to find that this year, as was the case in 1983, not one dollar of interest had to be paid. This means that while maintaining a dynamic level of services, which continues to grow and expand, IICA has not had to borrow monies, despite the fact that contributions from the member countries continued to be affected by ever-increasing economic difficulties in the hemishphere.

Quota Collections

As reflected in Table No. 1 and Figure No. 2, collections in 1984 totalled US$ 15.5 million, namely 81.5 percent of the sum which should have been collected. This represents a slight improvement over the previous year. However, payments of overdue quotas for years prior to 1984 only totalled US$ 1.3 million. This is cause for concern, particularly in view of the fact that the outstanding amount for 1984, when added to the amount owing to IICA for previous years, reveals that the Institute has been unable to collect US$ 7.3 million as of 31 December 1984.

All efforts on the part of the Member States to settle overdue payments would have a positive and widespread effect which would benefit the countries themselves.

Total Resources

The Institute was responsible for managing and handling a total of US$ 36.4 million in 1984 (Table No. 2). This was a substantial reduction from the previous year's sum of US$ 46.2 million, and can be explained by the completion of costly undertakings such as the IICA-IDB-Southern Cone Project and the Project to Eradicate African Swine Fever in Haiti in early 1984.

Expenditures using quota resources totalled US$ 17.5 million, while those attributable to the Simon Bolivar Fund totalled US$ 34.1 thousand. The corresponding amount for Extra-quota Agreements and Contracts was US$ 18.9 million, including US$ 1.3 million pertaining to collection of CATIs.

In compliance with the pertinent regulations, these CATIs were generated by extra-quota projects. It is significant to note that between what was collected as CATIs and what was expended by the end of 1984, there was a surplus of US$ 41 227, which reflects the degree of control and caution exercised in the collection and management of CATIs, so as to avoid the use of quotas or other resources to cover indirect administrative and technical costs.

Simon Bolivar Fund

The Simon Bolivar Fund was created in 1974 by resolution of the Board of Directors of the then Inter-American Institute for Agricultural Sciences in 1974. This action was in response to an initiative of the Government of *Venezuela,* which contributed an initial amount of US$ 10 million for a five-year period. The Fund, which was voluntary and international in nature, and administered by the Institute, was designed to contribute to agricultural development and rural well-being in Latin America and the Caribbean.

The Fund began operating in April of 1976 by implementing projects in three major areas to: increase production and productivity, improve marketing and formulate and implement national policies and plans for agricultural development.

From 1976 to 1983, IICA used resources from the Simon Bolivar Fund to implement 54 national projects in 24 countries, six multinational projects and two hemispheric projects, which the Inter-Ameri-

can Board of Agriculture deemed to be extremely successful. These projects were of great benefit to agriculture and rural development in the Member States and to the Institute's actions, which were strengthened by the efficient use of the Fund.

The majority of the projects financed by the Simon Bolivar Fund concluded between 1981 and 1983. However, a few projects and activities, which had been financed by the Fund, continued into 1984, using the available balance to meet their objectives. Others were institutionalized and taken over by the national systems with contributions either from national governments or from IICA, which incorporated them into its regular programs.

Costa Rica and *Ecuador* supported the Fund in 1984 with contributions of US$ 6 333.77 and US$ 5 664.46 respectively. The Institute used Fund resources for projects in *Ecuador* and *Guatemala.* In *Ecuador,* the project on "Business Training for the Cantons of Cayambe and Pedro Moncayo" was incorporated, by virtue of an agreement signed with the Ministry of Agriculture and Livestock, into MAG's Projects for Community Development, which continued to receive support from the Fund during the fiscal year.

In *Guatemala,* the project "Support for Implementing the Master Plan for Integrated Rural Development in the North Transverse Belt," which was financed by the Fund from 1979 to 1983, developed a methodology known as the "Integrated System for Planning and Implementation" (SIMPLE), which the Government of *Guatemala* decided to implement in the above-mentioned zone and other regions in the country. In 1984, the Fund supported the project "Support for SPA in the Controlled Transfer of Technology using Technological Production Modules," and thus apply the "SIMPLE" method to Region IV.

Nevertheless, only US$ 34.1 thousand were used in 1984, leaving US$ 186 700 of Simon Bolivar Fund resources as surplus in the Working Subfund, which could be used in 1985, through adequate programming, in the implementation of new projects managed with strict observance of the objectives and aims governing the use of this Special Fund.

STATEMENT OF ASSETS, LIABILITIES, AND THE GENERAL WORKING FUND

Assets

Assets consist of cash on hand and in banks, short-term preinvestments, quotas receivable from the Member States, inventories, and other assets and agreements and contracts, for a total value of US$ 15.7 million. Special mention should be made of the cash on hand and in banks totalling US$ 5.0 million, quotas receivable in the amount of US$ 7.3 million, and other accounts receivable totalling US$ 3.4 million. In this last regard, it should be pointed out that overdue doubtful accounts amount to US$ 989 000. Their composition and analysis shall be submitted to the Committee and to the JIA, in compliance with a resolution specifically related thereto (See Table No. 3).

Liabilities and the General Working Fund

These consist mainly of accounts payable and accrued expenditures, Revolving Funds, reserves for labor benefits and recognition for years of service and other reserves (improvement of recreational areas and remodeling of the IICA Office in *Uruguay*), credit balances from extra-quota agreements, and the accrued balance of the General Working Fund.

The General Working Fund merits special clarification, particularly in light of the fact that IICA is rapidly moving towards automation, under the **ad-hoc** Financial Rules, which set forth the structuring of a Working Subfund which will replace the General Working Fund. This distinction is neither nominal nor superficial, since it involves a specific interpretation contained in the Rules of Procedure of the General Directorate.

In fact, the General Working Fund, which has been traditionally maintained as a component of the financial statements, results from the recording of quota income, including outstanding quotas plus miscellaneous resources, while the Working Subfund, by reglamentary definition, would be composed of income actually received. This basic difference, plus others of lesser consequence, may neither be drastically nor definitively eliminated until the automated financial and accounting system is fully operational, since this operation will

require more elaborate calculations allowing for separate accounting procedures for each of the funds, so as to identify them as independent financial entities.

EXECUTION OF THE QUOTA PROGRAM-BUDGET

The Inter-American Board of Agriculture (JIA), in Resolution IICA/JIA/Res.33(II-0/83), approved a Program-Budget financed through quotas from the Member States for the 1984 fiscal year totalling US$ 19 322 935 (See Table No. 4).

During this period, US$ 17 497 441 of said budget was used, which represented a level of Institute-wide budget execution of 90.6 percent. The degree to which the Program-Budget is used depends largely on the prompt receipt of the Member States' contributions to the Institute. This largely affected budget execution in some Member States during the fiscal year.

Another element influencing budget execution, although to a lesser degree, are changes in the economic, social, and political conditions in the countries, which make it necessary to make ongoing adjustments in the programming process approved by the JIA. Accordingly, the JIA has made pertinent provisions by authorizing the Director General to make transfers of up to 20 percent from one chapter to another.

Transfers during the 1984 fiscal year occurred mainly between Chapter I (Direct Technical Cooperation Services), and Chapter II (General Directorate Costs), in view of the fact that the latter had to be increased by US$ 549 066 because of: i) the need to reinforce supervision and control actions carried out by the units in the Office of the Director General; ii) increased expenditures attributed to the automation of administrative services, and iii) control and supervision efforts in the Directorates of the IICA Offices.

Under Chapter I (Direct Technical Cooperation Services), the level of budget execution was 82 percent. The highest level was registered by the Centers (Table No. 4).

In terms of Programs, only 80 percent of the budget was spent. Program I (Formal Agricultural Education) was unique in that 110 percent was expended. Other programs recording a high level of

budget execution were Program IV (Animal Health) and Program VI (Stimulus for Agricultural and Forest Production). However, there were Programs showing a low degree of budget execution, such as Programs VII (Agricultural Marketing and Agroindustry) and X (Information for Agricultural Development and Rural Well-being), which recorded less than 70 percent. Of all the Programs, the only one requiring a transfer was Program I (Formal Agricultural Education), for which transfers on the order of US$ 46 431 were authorized (Table No. 4).

As stated earlier, the Centers showed a significant level of budget execution, namely 97 percent; the lowest was CIDIA, which nonetheless surpassed the average level (Table No. 4).

Chapter II, Direction Supervision and Support, used 92 percent, which may be attributed to the exceptionally high level of budget execution in the Office of the Director General for reasons stated above. Accordingly, it was necessary to effect transfers for a total of US$ 549 066 (Table No. 4).

Under Chapter III, a total of 92 percent of the budget was executed, leaving a surplus of only US$ 8 887. Under this same Chapter, two items had to be increased: one was payment to the OAS Administrative Tribunal; the other expenditure for the Pension for former Directors General of IICA (Table No. 4).

It should be noted that the heading "expenditures" includes several items which do not necessarily represent real outlays, but generate expenditures by virtue of budgetary transfers to provide reserves for the payment of employee benefits, recognition for years of service, and the mandatory annual increase of the General Working Fund.

TABLE No. 1. Statement of Member State Quotas as of December 31, 1984 (in US$).

Country	Due			Received			Balance Payable		
	As of 31 December 1983	Quota Resolution 1984	Total as of 1 Jan. 1984	Previous years	Present year	Total	Previous years	Present year	Total
Argentina	1 839 048	1 349 790	3 188 838	500 000	–	500 000	1 339 048	1 349 790	2 688 838
Barbados	–	14 435	14 435	–	14 435	14 435	–	–	–
Bolivia	59 625	32 482	92 107	–	–	–	59 625	32 482	92 107
Brazil	2 105 418	1 690 847	3 796 265	495 088	–	495 088	1 610 330	1 690 847	3 301 177
Canada	13 143	1 252 346	1 265 489	13 143	1 252 346	1 265 489	–	–	–
Chile	1 534	146 167	147 701	1 534	146 167	147 701	–	–	–
Colombia	1 875	178 648	180 523	1 875	155 101	156 976	–	23 547	23 547
Costa Rica	39 011	32 482	71 493	39 011	3 640	42 651	–	28 842	28 842
Dominica	1 037	3 609	4 646	–	–	–	1 037	3 609	4 646
Dominican Rep.	96 201	32 482	128 683	49 601	–	49 601	46 600	32 482	79 082
Ecuador	24 638	32 482	57 120	5 266	12 222	17 488	19 372	20 260	39 632
El Salvador	106 102	32 482	138 584	–	–	–	106 102	32 482	138 584
Grenada	17 368	5 413	22 781	17 368	257	17 625	–	5 156	5 156
Guatemala	341	32 482	32 823	–	–	–	341	32 482	32 823
Guyana	65 773	25 263	91 036	–	–	–	65 773	25 263	91 036
Haiti	117 203	32 482	149 685	50 000	–	50 000	67 203	32 482	99 685
Honduras	935	32 482	33 417	–	–	–	935	32 482	33 417
Jamaica	30 935	32 482	63 417	30 935	32 414	63 349	–	68	68
Mexico	13 313	1 268 586	1 281 899	13 313	1 268 586	1 281 899	–	–	–
Nicaragua	166 092	32 482	198 574	–	–	–	166 092	32 482	198 574
Panama	(816)	32 482	31 666	–	29 411	29 411	(816)	3 071	2 255
Paraguay	51 578	32 482	84 060	20 643	–	20 643	30 935	32 482	63 417
Peru	178 876	97 444	276 320	86 072	–	86 072	92 804	97 444	190 248

Saint Lucia	5 156	5 413	10 569	–	–	–	5 156	5 413	10 569
Suriname	–	23 459	23 459	–	23 459	23 459	–	–	–
Trinidad and Tobago	341	32 482	32 823	–	–	–	341	32 482	32 823
United States	24 296	11 909 915	11 934 211	24 296	11 985 704	12 010 000	–	(75 789)	(75 789)
Uruguay	61 869	64 963	126 832	–	–	–	61 869	64 963	126 832
Venezuela	84 903	651 436	736 339	–	651 436	651 436	84 903	–	84 903
Total	5 105 795	19 110 000	24 215 795	1 348 145	15 575 178	16 923 323	3 757 650	3 534 822	7 292 472
Cuba[1]			[1]						

1 Not including *Cuba* (owing US$ 1 999 388).

TABLE No. 2. Total resources used as of 31 December 1984 (in US$).

	1981	%	1982	%	1983	%	1984	%
Quotas	14 380 925	43.9	14 633 099	34.5	17 173 062	36.7	17 497 441	48.0
S.B.F.	2 272 142	6.9	1 802 004	4.0	1 093 126	0.4	34 140	0.1
Agreements	16 135 710	49.2	26 113 400	61.5	27 903 641	62.9	18 906 665	51.9
	32 788 777	100.0	42 548 503	100.0	46 169 829	100.0	36 438 246	100.0

TABLE No. 3. Comparative statement of assets and liabilities from 31/12/83 to 31/12/84 (in US$).

Assets	31/12/84	31/12/83	Liabilities and General Working Fund	31/12/84	31/12/83
Cash on hand and in banks	5 002 582	2 173 543	Fund advances and accrued expenditures	1 312 143	1 410 133
Short-term Preinvestments	554 863	2 005 201	Fund advances – NI. Funds	132 502	157 481
Accounts receivable from:					
Member State Quotas*	7 292 472	5 105 795	Fund advances – S.B.F.	186 733	–
National Funds	189 485	215 059	Revolving Funds	700 489	438 269
Advances on operating expenditures – Simon Bolivar Fund	–	240 742	Reserve obligatory labor ben.	245 967	264 352
Doubtful Accounts	989 293	935 087	Reserve recognition for years of service	455 661	295 312
Others	381 783	109 098	Other reserves	80 383	130 000
Inventories	249 604	287 121			
Prepaid expenses	109 322	181 290			
Other assets	45 010	77 978	Agreements and Contracts	2 466 936	2 633 586
Agreements and contracts	905 396	1 654 627	General Working Fund	10 138 996	7 656 408
	15 719 810	12 985 541		15 719 810	12 985 541

* Not including *Cuba*.

TABLE No. 4. Quota Funds. Consolidated budget statement as of 31 December 1984 (in US$).

Chapter 1 — Direct Technical Cooperation Services	Budget	Expenditures	Budget Balance
			Surplus
PROGRAMS			
PROGRAM I			
Formal Agricultural Education	426 400	472 831	(46 431)
PROGRAM II			
Generation and Transfer of Agricultural Technology	1 903 000	1 491 954	411 046
PROGRAM III			
Conservation and Management of Renewable Natural Resources	966 200	737 061	229 139
PROGRAM IV			
Animal Health	909 800	836 556	73 244
PROGRAM V			
Plant Protection	788 000	615 008	172 992
PROGRAM VI			
Stimulus for Agricultural and Forest Production	1 085 600	1 013 308	72 292
PROGRAM VII			
Agricultural Marketing and Agroindustry	993 300	663 025	330 275
PROGRAM VIII			
Integrated Rural Development	1 764 600	1 344 714	419 886
PROGRAM IX			
Planning and Management for Agricultural Development and Rural Well-being	1 238 700	1 027 818	210 882
PROGRAM X			
Information for Agricultural Development and Rural Well-being	766 400	454.135	312 265
TOTAL PROGRAMS	10 842 000	8 656 410	2 185 590

Chapter 1 — Direct Technical Cooperation Services	Budget	Expenditures	Budget Balance Surplus
CENTERS			
Tropical Agriculture Research and Training Center (CATIE)	956 600	956 600	—
Inter-American Agricultural Documentation and Information Center (CIDIA)	753 400	708 375	45 025
Investment Projects Center (CEPI)	347 700	328 642	19 058
TOTAL CENTERS	2 057 700	1 993 617	64 083
TOTAL SHORT-TERM TECHNICAL COOPERATION AND PRE-INVESTMENT	116 000	—	116 000
TOTAL CHAPTER I	13 015 700	10 650 027	2 365 673
CHAPTER II — DIRECTION, SUPERVISION AND SUPPORT			
Office of the Director General	1 511 800	1 849 389	(337 589)
ADDG Operations	2 621 000	2 934 839	(313 839)
ADDG External Affairs	1 113 800	1 046 798	67 002
ADDG Program Development	377 400	342 040	35 360
TOTAL CHAPTER II	5 624 000	6 173 066	(549 066)
CHAPTER III — GENERAL COSTS AND PROVISIONS			
Kellogg Foundation	60 000	60 000	—
General Working Fund	332 935	332 900	35
Furniture and Equipment	200 000	199 881	119
OAS Administrative Tribunal	6 000	8 598	(2 598)
IICA Insurance Assets	52 000	36 689	15 311
Pension of Former Directors General	32 300	36 280	(3 980)
TOTAL CHAPTER III	683 235	674 348	8 887
TOTAL ALLOCATION (US$)	19 322 935	17 497 441	1 825 494

TABLE No. 5. Actual expenditures of quota budget by program (in US$).

	Total Expended US$		
	US$		%
A. Programs		8 656 410	49.5
1. Program I	472 831	2.7	
2. Program II	1 491 954	8 6	
3. Program III	737 061	4.2	
4. Program IV	836 556	4.8	
5. Program V	615 008	3.5	
6. Program VI	1 013 308	5.7	
7. Program VII	663 025	3.7	
8. Program VIII	1 344 714	7.7	
9. Program IX	1 027 818	5.9	
10. Program X	454 135	2.7	
B. Centers		1 993 617	11.4
11. CATIE	956 600	5.5	
12. CIDIA	708 375	4.0	
13. CEPI	328 642	1.9	
14. Dir. Supervision and Support		6 173 066	35.3
15. General Costs and Provisions		674 348	3.8
Total		17 497 441	100.0

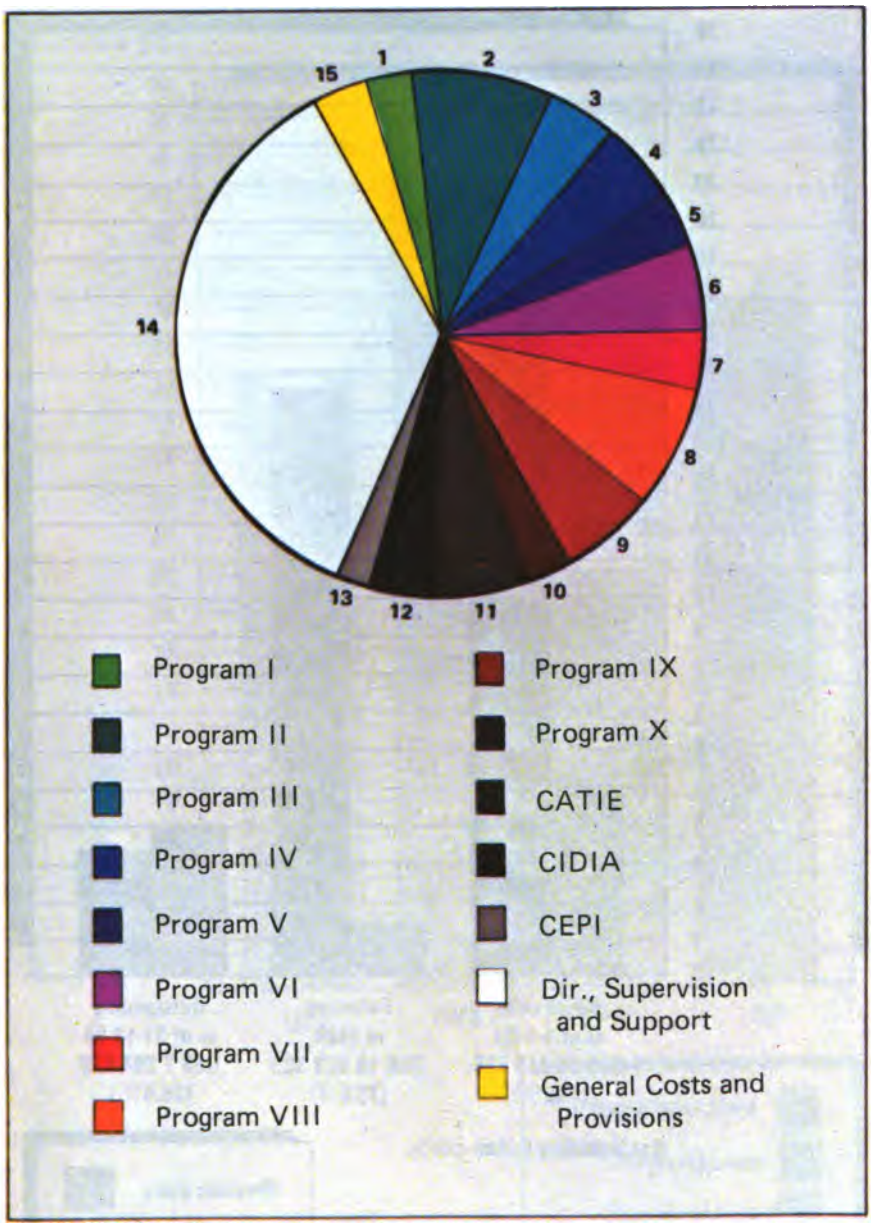


Fig. 1. Actual expenditures of quota budget by program (in US$).

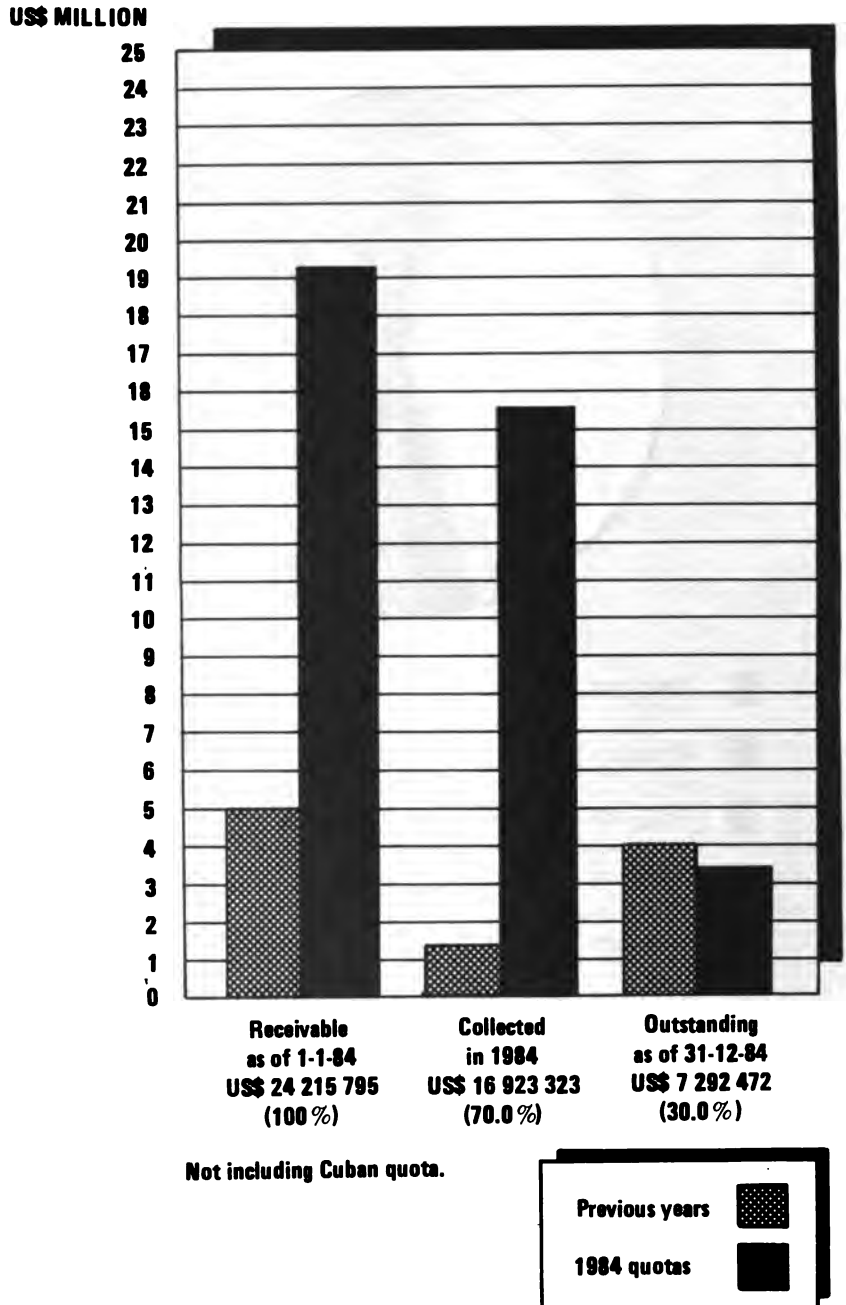


Fig. 2. Analysis of quota collections in 1984.

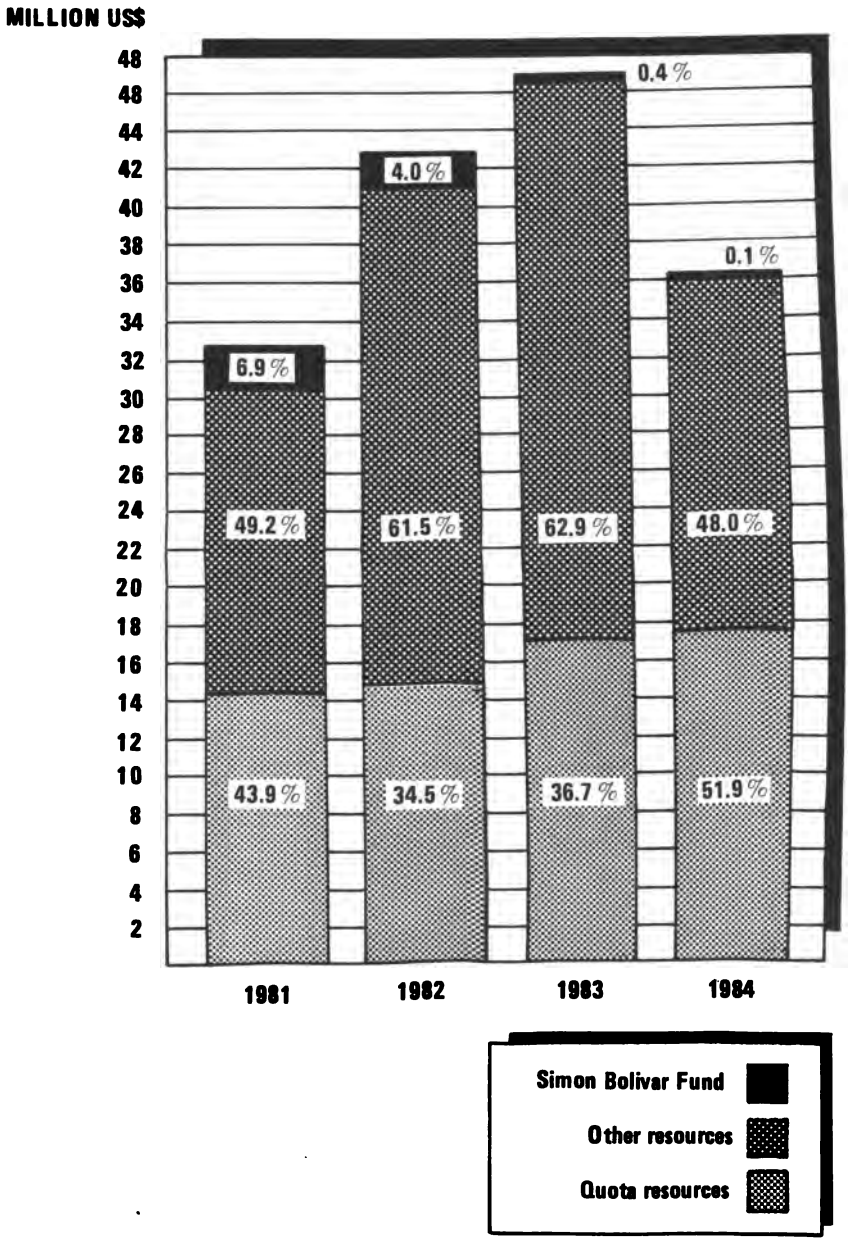


Fig. 3. Total resources used.

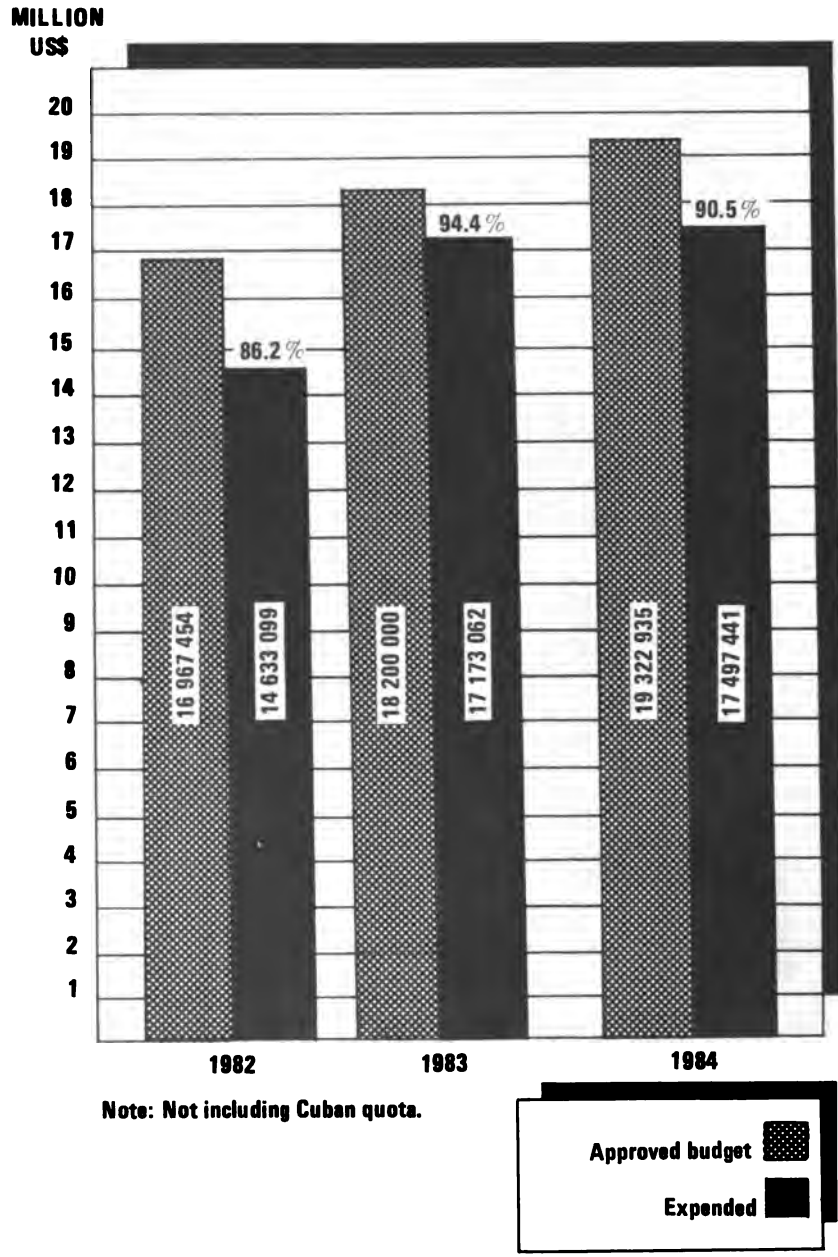
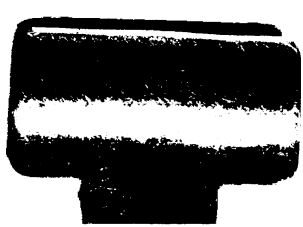


Fig. 4. Program-Budget Execution as compared to Approved Budget.

FECHA DE DEVOLUCION			
2 8 FEB 1985			
2 3 MAR 2000			



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The Institute's purposes are to encourage, promote and support the efforts of the Member States to achieve their agricultural development and rural well-being.

The Convention envisages the following approach for achieving the Institute's purposes: promoting reinforcement of national institutions; formulating and implementing plans, programs, projects and activities which respond to the requirements of the governments of the Member States; establishing and maintaining cooperative ties with the Organization of American States and with governmental and non-governmental agencies pursuing goals similar to those of the Institute, and coordinating its efforts with them; and serving as an organ of consultation, technical implementation and program and project management in the agricultural sector, through agreements with the OAS and with other national, inter-American and international agencies and entities.

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