

PLAN OF JOINT ACTION FOR AGRICULTURAL REACTIVATION IN LATIN AMERICA AND THE CARIBBEAN

4

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ANDEAN SUBREGION

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INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE
BOARD OF THE CARTAGENA AGREEMENT

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	v
EXECUTIVE SUMMARY	vii
INTRODUCTION	1
I. <u>THE AGRICULTURAL SECTOR AND ECONOMIC DEVELOPMENT IN THE ANDEAN SUBREGION</u>	5
A. TRENDS IN AGRICULTURE	5
1. <u>Brief Description of the Situation in the Region and the Differences among Countries</u>	5
2. <u>Importance of the Agricultural Sector and Constraints on its Contribution to Development</u>	11
3. <u>Macroeconomic Policies, Sectoral Policies and the Institutional System</u>	17
B. CHANGES IN THE ENVIRONMENT: THE 1980'S	21
1. <u>Changes in Major Variables: General Downturn and Growing Complexity</u>	21
2. <u>Insecurity and the Drug Trade</u>	25
3. <u>The Subregional Context</u>	25
II. <u>THE NEED TO CHANGE THE ROLE OF AGRICULTURE IN DEVELOPMENT STRATEGIES</u>	27
A. THE ROLE OF THE AGRICULTURAL SECTOR IN DEVELOPMENT STRATEGIES: INTERPRETATION AND POTENTIAL	27
1. <u>General Remarks on the Sector's Contribution and Constraints</u>	27
2. <u>The Import Substitution Model: Achievements and Signs of Fatigue</u>	28

B.	THE CRISIS OF THE 1980'S AND THE NEED FOR A NEW DEVELOPMENT STRATEGY	30
1.	<u>General Remarks</u>	30
2.	<u>Efforts to adapt to a Changing Environment</u>	32
III.	<u>FOUNDATIONS OF THE STRATEGY FOR REACTIVATION AND AGRICULTURAL DEVELOPMENT</u>	35
A.	OBJECTIVES OF AGRICULTURAL REACTIVATION AND DEVELOPMENT OF THE RURAL MILIEU	36
1.	<u>Increase the Supply of Agricultural and Agroindustrial Goods</u>	36
2.	<u>Increase Demand and ensure an Accessible Food Supply</u>	37
3.	<u>Participate more effectively in the International Marketplace</u>	38
4.	<u>Consolidate the Development Process of the Campesino Economy</u>	38
B.	CENTRAL FEATURES OF NATIONAL-LEVEL STRATEGIES IN THE SUBREGIONAL CONTEXT	39
1.	<u>Macroeconomic and Sectoral Incentives for Agricultural Production</u>	40
2.	<u>Technology</u>	42
3.	<u>Linkages between Agriculture and Industry</u>	44
4.	<u>Environment and Natural Resources</u>	46
5.	<u>Trade and Integration</u>	48
6.	<u>The Campesino Economy</u>	52
7.	<u>Food Supplements for Groups at Nutritional Risk</u>	53
8.	<u>The Public Agricultural Sector</u>	53
C.	SUBREGIONAL INTEGRATION AND THE POTENTIAL FOR JOINT ACTION IN SUPPORT OF NATIONAL STRATEGIES	57

IV.	<u>PROGRAMS OF JOINT ACTION</u>	59
A.	PROGRAM OF INSTITUTIONAL STRENGTHENING TO IMPROVE POLICIES FOR AGRICULTURE	62
B.	PROGRAM FOR GENERATION AND TRANSFER OF AGRICULTURAL TECHNOLOGY	65
C.	PROGRAM FOR AGROINDUSTRIAL DEVELOPMENT IN RURAL AREAS	70
D.	PROGRAM ON THE ENVIRONMENT AND NATURAL RESOURCES	72
E.	PROGRAM FOR AGRICULTURAL TRADE AND INTEGRATION	77
F.	PROGRAM FOR PLANT PROTECTION AND ANIMAL HEALTH	85
G.	ANDEAN PROGRAM FOR CAMPESINO DEVELOPMENT	91
H.	PROGRAM FOR DIRECT FOOD ASSISTANCE	94
	STATISTICAL APPENDIX	97



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Since it first began, the preparation of the Plan of Joint Action for Agricultural Reactivation in Latin America and the Caribbean (PLANALC) has been a participatory process. It was based on generating ideas and discussing joint action proposals that might contribute to agricultural development in the region.

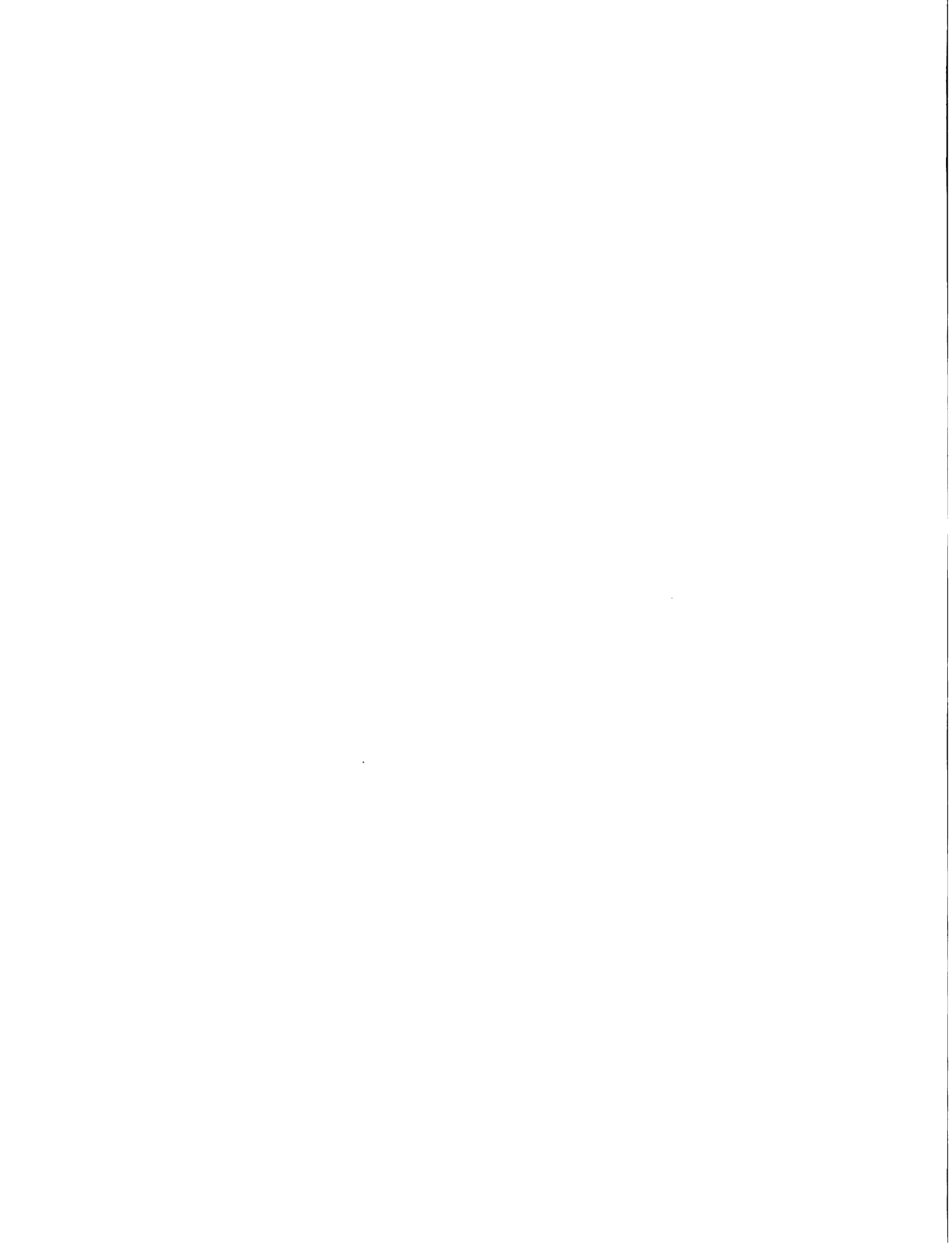
Many institutions and individuals have contributed in one way or another to this work, whether through the broad process of consultation, or by making specific contributions to the different PLANALC documents.

Credit should be given to all those who, in one way or another, cooperated in this effort, always with the understanding that some have been inadvertently overlooked.

The preparation of this document was enriched by contributions from the deputy ministers of agriculture and other authorities in Bolivia, Colombia, Ecuador, Peru and Venezuela; and officials and technicians of the agricultural sector in the countries. It also received contributions from participants in the Interagency Consultative Meeting¹ and IICA Representatives and specialists in the countries of the Andean Area. The following people were directly responsible for writing different sections of the document: for IICA, Enrique Alarcón, Francois Boucher, Daniel Coatler (Consultant), Lizardo de las Casas, Carlos de Miranda, Alberto Franco, Victor Palma, Sergio Sepúlveda and Jorge Torres Zorrilla; and for the Board of the Cartagena Agreement, Luis Paz Silva and technical specialists of the Department of Agriculture.

Overall responsibility for preparing PLANALC was in the hands of Félix M. Cirio, as Coordinator, and a working group made up of: C.Luiselli, F.Jordan, H.Mussman, C.Pomareda, R.Quirós, E.Trigo, D.Londoño and F.Dall'acqua. Contributions were also received from an International Advisory Commission made up of: R.Campbell, F.Homen de Melo, D.Ibarra, R.Junguito, A.McIntyre, M.Petit, L.Reca, E.Schuh and M.Urrutia.

¹This meeting was attended by ALADI, ALIDE, BCIE, Board of the Cartagena Agreement, CARDI, CARICOM, CATIE, CIAT, CIMMYT, CIPREDA, CORECA, ECLAC, FAO, IBRD/World Bank, IDB, INTAL, IFPRI, ISNAR, OAS, OIRSA, PAHO/WHO, SELA, SIECA, the Spanish Ministry of Agriculture, Fishing and Food, UNDP, UNESCO, the University of the West Indies and WFC.



PLAN OF JOINT ACTION FOR AGRICULTURAL REACTIVATION IN THE COUNTRIES
OF THE ANDEAN SUBREGION

EXECUTIVE SUMMARY

The central features of this document are:

- The foundations for a strategy to reactivate and develop agriculture. This section describes four objectives tailored to the conditions that are anticipated for the end of the century, and eight central issues targeted by the strategy, that should provide a framework for the policies to be adopted by the countries in the context of subregional integration.
- The programs of joint action, in which cooperative work by the countries, organized into eight programs, will propel each country's endeavors to reactivate agriculture and develop the rural milieu.

In essence, the document recognizes that the development model based on industrialization via import substitution in the countries of the region, while indeed it provided high growth rates during past decades, discriminated against agriculture. Until the present decade, the countries were enjoying an economic boom, in aggregate terms, that kept them from understanding the implications of the dualistic structure that was being consolidated in agriculture. Economic well-being masked the effects of excessive rural emigration into a few cities, where a chaotic process of urban sprawl was gathering force, and prevented the countries from seeing that widespread poverty was taking hold in the rural areas. This situation has grown worse since 1980, as the countries are now faced with crises in their balance of payments and external indebtedness. The countryside has become a dangerous place as terrorism spreads and drug trafficking increases.

The central thesis of this document is that, in such a climate, a reactivated agricultural sector can help counteract the impact of the crisis and promote development. The countries themselves must launch the effort for reactivation by taking the following measures: 1) correct the anti-agriculture bias of macroeconomic policies; 2) improve coordination between institutions of the government and the different groups of society; and 3) better coordinate the entities responsible for policy design with those expected to implement those policies. The document also stresses the need for national efforts to go hand in hand with a subregional initiative to strengthen the process of integration and harmonize policies for agriculture. Such an initiative would sponsor programs of joint action in support of the process of reactivating agriculture and development in the rural milieu.

The document consists of an introduction, four chapters and a statistical appendix.

The Preface lays the legal foundations that undergird the Plan of Reactivation for the Andean Subregion. It describes the extensive process of technical and political consultation that took place in all five countries of the subregion while the document was being prepared. It describes the instructions

given by the presidents of Colombia, Ecuador, Peru and Venezuela and the minister of foreign affairs of Bolivia in the Manifesto of Cartagena de Indias, when they asked that the reactivation strategy be implemented nationally and that the programs of joint action begin.

Chapter One describes the present situation in the agricultural sector of the different countries and for the subregion as a whole. Differences and similarities are underscored, as is the contribution that the agricultural sector makes to each national economy. The chapter reviews certain macroeconomic and sectoral policies that the countries have used as part of the industrialization process, and shows how these policies have affected the development of agriculture. The analysis singles out particular macroeconomic policies that have influenced agriculture in the subregion, including policies on exchange rates, interest rates, credit, prices, subsidies and wages. It argues that these different policies designed for developing the industrial sector had a combined impact with serious repercussions for agriculture. The text also identifies recent changes in economic conditions, such as slowing growth rates, intensified rural-to-urban migration, a booming informal sector in the economies of the subregion, irregular patterns of export growth, increased contraband trade and rising terrorism in some countries, continued expansion of the foreign debt, plummeting investments and declining wage rates.

Chapter Two examines the different characteristics of development in the agricultural sector of the countries of the subregion. It takes a look at the agricultural sector in each national economy, and assesses its contribution to exports and employment. It discusses the limitations that keep the agricultural sector in each country from making its full contribution to the overall economy, and describes the relationship between the sector and the countries' efforts to industrialize, as well as the treatment agriculture has received under industrial development strategies. The text then outlines changes in the national and international context and puts forth the need to reformulate development strategies. It details the crisis of the 1980's and its impact on production, income, the burgeoning foreign debt, and deteriorating terms of trade. There is a pressing need to shape a strategy that will allow agriculture to make a positive contribution to the balance of payments, increase employment, expand foreign markets and stabilize prices. The text concludes that agriculture is in a position to make a major contribution to meeting these goals.

A clear relationship is found between food and poverty. Both the rural and urban poor devote a high percentage of their total income to feeding themselves. Food absorbs the greater part of the wages earned by this social group, and changes in food supply and prices have a major impact on real income. This is why it is essential, over the short and medium term, to propose measures striking an appropriate balance between prices that will encourage agricultural production, and compensation programs for those who purchase low-cost food staples.

The rapid economic growth of the past has seen no parallel improvement in income distribution. It is ironic that rising demand has pushed up inflation, primarily affecting food products, thus diminishing the real income of poor groups who must devote much of their disposable income to acquiring food. At the same time, the effects of economic growth have been more favorable for

modern agriculture than for peasant agriculture, which has little access to production factors and technology, and thus is less able to generate a surplus. In order to develop a reactivation strategy for the sector that will produce a multiplier effect on the economy, it is first necessary to redirect public spending so as to lessen the burden of urban and rural poverty.

Chapter Two closes with a discussion of efforts by the countries to adapt to changing circumstances by slashing the trade deficit and making structural adjustments.

Chapter Three describes the objectives and central features of the strategy to reactivate agriculture and develop the rural milieu in the Andean subregion. The objectives are useful for visualizing the scenario desired for the end of the century in terms of: 1) increasing the supply of agricultural and agroindustrial goods at low unit cost, while maintaining the production capacity of natural resources and protecting the quality of the environment; 2) boosting demand and ensuring an accessible food supply for groups of society that are at nutritional risk; 3) participating more effectively in the international market, by upping agricultural and agroindustrial exports and substituting imports efficiently; and 4) consolidating the process of developing the peasant economy, upgrading its production capacity and providing it with greater access to the benefits of increased production.

Chapter Three also describes eight central features of reactivation whereby agriculture can make a more dynamic contribution to economic development and social well-being.

These eight features of the strategy have been divided into three levels. The first five features, assigned to Level One, concentrate on increasing the supply of agricultural and agroindustrial products and improving trade. Level Two uses the perspective of integration to focus on the peasant farm economy and food supplements for population groups that are nutritionally at risk. Both issues contain certain strategic characteristics of Level One, combined with questions of food demand and consumption. Level Three refers to the public sector of agriculture and its relations with the private sector. This level of the strategy must work in coordination with the other seven and complement them. The central issues of agricultural reactivation at the national level, in the context of subregional integration, are:

1. The countries must adopt macroeconomic and sectoral incentives appropriate for agricultural production. This means that exchange-rate, tariff, subsidy, credit and pricing policies all must be reviewed so as to correct their biases against agriculture and, at the same time, against peasant farmers. A secondary purpose is to encourage more efficient use of productive resources. The different countries should strive to harmonize their policies with those of their neighbors so they can avoid cancelling out the effects of one another's domestic programs.
2. A new technological development strategy needs to address the needs of the rural majorities and seek to protect the environment. This section recognizes that technological development will continue to focus primarily on genetic material, and to a lesser degree on agrochemicals and mechaniza-

tion. It shows how government support has favored agricultural research, overlooking technology transfer. It discusses macroeconomic policies and the way they encourage or discourage technology adoption. It notes that the technology being generated has targeted commercial agriculture much more than campesino agriculture. Finally, it remarks that the demand for technology has been more intense for crops with a short production cycle than for more permanent crops, possibly due to economic and social instability and the need for quick profits from agriculture.

3. The countries need an economic strategy that will strengthen linkages between agriculture and industry, developing multiplier effects in rural zones. Agroindustrial production systems have special comparative advantages, but require effective protection. Rural industrialization is a relatively difficult policy to implement, but if public sector support is forthcoming in the form of infrastructure, transportation and energy, it can be based on the use of locally-available resources, skills and interests.
4. There is a special need to ensure rational use of fragile ecosystems, such as the Amazon and the Andean highlands. The resources in such zones need to be apportioned in such a way as to sustain the production capacity of natural resources and protect the quality of the environment.
5. An agricultural trade strategy must be established that will encourage efficient import substitution and foster export diversification. Furthermore, this strategy must take account of comparative advantages and facilitate negotiations to reduce protectionism in developed countries. Foreign trade goals can be met only if domestic policy distortions are corrected, including exchange rates and industrial protection, and through clear-minded negotiations in international forums such as GATT and regional bodies such as ALADI. It is essential to promote the development of specific export subsectors in the countries of the Andean group. The countries need help in improving their national systems of food supply and marketing in both rural and urban areas, promoting reciprocal technical cooperation.
6. Differentiated policies are needed for developing campesino economies, taking into account the heterogeneity of the sector. Such policies must have enough flexibility to be tailored to the sociocultural peculiarities of the different social groups. They must encourage participation by the organized community. They must also decentralize the decision-making process. Such policies cannot be implemented unless specific investment funds are created or strengthened, and these funds must be suited to the characteristics of the peasant economy. The national agencies responsible for peasant outreach and rural development need to improve their technical and institutional capacity. Finally, a mechanism needs to be created for retrieving the experiences of the different countries so they can be shared.
7. Food and nutritional assistance needs to be channeled toward groups living in extreme poverty, be they city dwellers, landless farm workers, or small-scale farmers. This assistance must be designed to replace the indis-

criminate use of consumer subsidies, and be based on low-cost mechanisms that are clearly focused on the intended target population. The assistance policy should also introduce mechanisms for food and nutritional surveillance, and for monitoring the impact of macroeconomic policies on vulnerable populations. New possibilities need to be detected for promoting changes in consumer habits, so as to increase the demand for production alternatives coming from the campesino economy.

8. If the public sector in agriculture is reformed and modernized, it will become possible to orchestrate the work of the public and private sectors and better coordinate policy design entities with those that must implement policies. The emphasis should be on developing a new dynamic to support the process of agricultural reactivation and development of rural areas, characterized by a decentralized decision-making process and the adoption of mechanisms that will allow both commercial and peasant producers to participate.

Finally, Chapter Four outlines the programs of joint action, based on shared problems suited to a joint approach. Program content is keyed to as many of the central features of the strategy as are relevant. The programs also address more concrete matters, such as the institutional organization in various countries of the subregion, and the orientation given to international funding.

The eight programs of joint action were defined through the broad process of consultation in the five countries, carried out at the time the Plan was being written. They are:

A. Institutional Strengthening to improve Policies for Agriculture

The first stage of this program will address the need to strengthen capabilities in the nations and in the subregion for analysis, guidance and decision-making, maintaining a dialogue to design and implement policies that will reactivate and develop agriculture in the Andean countries.

B. Generation and Transfer of Agricultural Technology

The program will strengthen cooperation among the countries of the subregion in research and transfer of agricultural technology. It will carry out the second phase of the Cooperative Program for Agricultural Research and Technology Transfer for the Andean Subregion. The program will also strengthen organization and management of national research and technology transfer institutions.

C. Agroindustrial Development in Rural Areas

The program will offer the support needed for product processing in rural zones, by both cottage industries and agroindustry, and will assist with marketing. It will conduct activities for institutional strengthening to promote and develop rural agroindustry, as well as specific research and training activities.

D. The Environment and Natural Resources

The program will address the countries' shared problems with environmental destruction in the Amazon and the Andean highlands. It will contribute to solving problems of degradation of public domain lands due to the misuse of forests, fishing resources, fuelwood, natural pastures and irrigation water. It will also attempt to counteract the environmental damage caused by production and processing of crops for the drug trade.

E. Agricultural Trade and Integration

The program will focus on promoting trade inside the subregion in the context of the Quito Protocol. It will seek to strengthen the bargaining power of national institutions, as a way to open external markets, and develop specific export subsectors in the countries of the Andean group. The program will also work to improve food supply and marketing systems in rural and urban zones of the countries, and promote export diversification.

F. Animal Health and Plant Protection

The following issues will be addressed: a) prevention, control and eradication of fruit flies; b) cooperation to fight foot-and-mouth disease; and c) strengthening the Andean Network of Animal Health Laboratories.

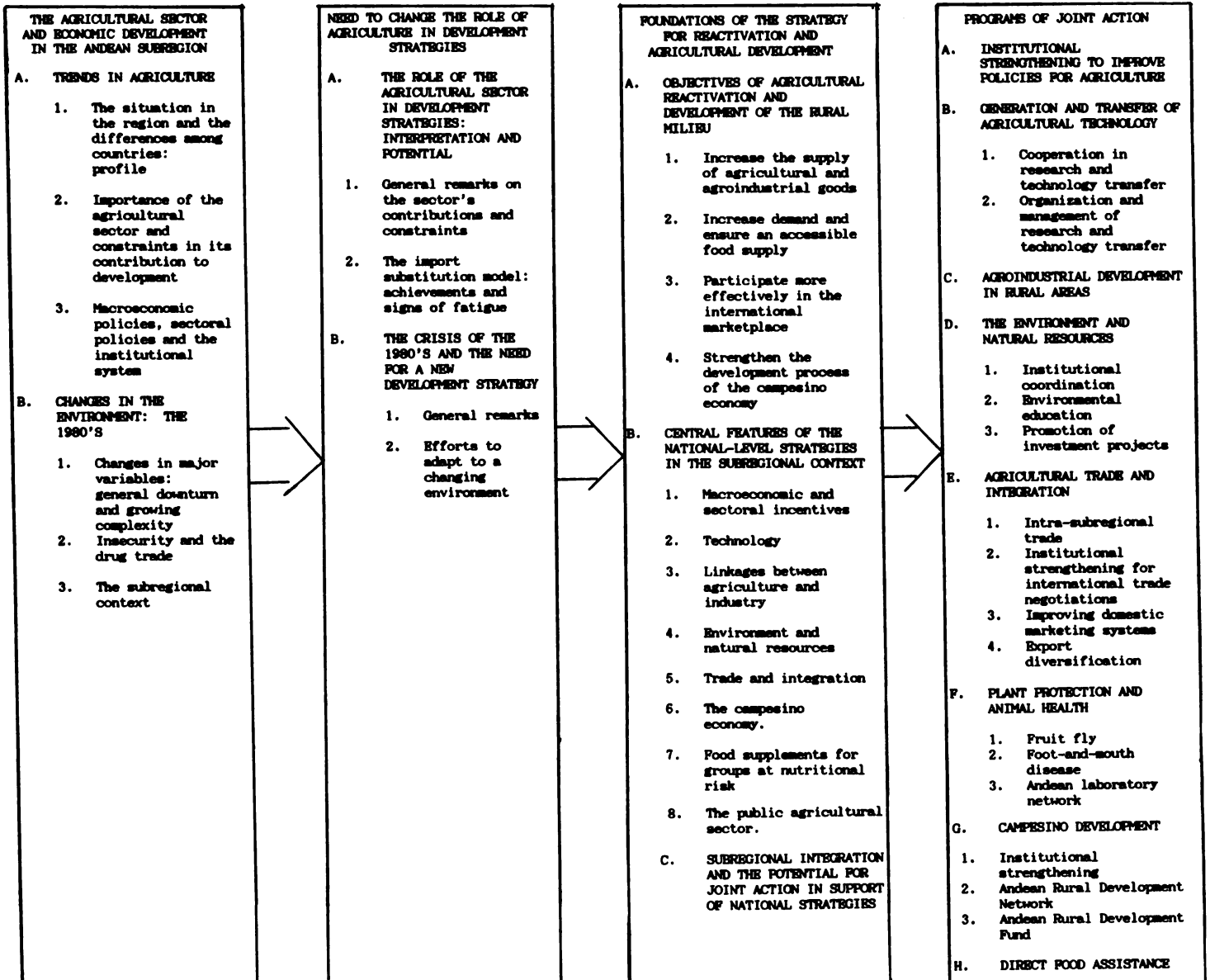
G. Andean Program for Campesino Development

This program has the following components: a) helping to strengthen national and nongovernmental institutions responsible for rural development in the countries; b) helping to set up and operate the Andean Rural Development Network; and c) contributing to the creation and operation of the Andean Rural Development Fund.

H. Direct Food Assistance

The principal concern is to provide institutional strengthening so that the countries and the subregion can develop and sustain capabilities for generating and carrying out direct food and nutritional assistance programs that focus on urban and rural groups living in extreme poverty.

PLAN OF JOINT ACTION FOR AGRICULTURAL REACTIVATION IN THE COUNTRIES OF THE ANDEAN SUBREGION
(Outline)





INTRODUCTION

The Ninth Inter-American Conference of Ministers of Agriculture was a specialized conference of the Inter-American System, convened by the Organization of American States and held in Ottawa, Canada in September, 1987. In its Recommendation Number X, the Conference instructed the Inter-American Institute for Cooperation on Agriculture (IICA) to develop "...in collaboration with member countries, the specialized agencies of the Inter-American System and other specialized organizations, a strategic plan of joint action in support of agricultural revitalization and economic development in Latin America and the Caribbean..." This recommendation was endorsed during the Seventeenth Session of the General Assembly of the OAS, which took place in Washington, D.C. in October, 1987. The Plan should be presented to the regular meeting of the Inter-American Board of Agriculture, to be held in 1989.¹

In compliance with this mandate, IICA proposed and agreed to a broad-based mechanism of consultation and participation, so that the Plan could be enriched with the contributions of the member countries, regional institutions and technical and financial cooperation agencies interested in taking part in this initiative.

The work of preparing the Plan has been organized into two levels:² first, strategy and action proposals for the entire hemisphere, and second, the development of "plans of joint action for reactivating agriculture" in each of the four subregions covered by the Plan (Central, Caribbean, Andean and Southern). The plans of joint action consist of three key components: a) "strategies," reflecting a consensus on key areas where joint actions should be concentrated in the countries of each subregion, to favor agricultural development; b) proposals of joint action (programs, projects, etc.) in high-priority areas; and c) institutional and financial mechanisms for carrying out the Plan in each subregion.

The organizational guidelines for preparing the Plan of Action were approved by the Eighth Regular Meeting of IICA's Executive Committee, held in San Jose from August 1 to 4, 1988. They received the nod from the ministers and deputy ministers of agriculture at meetings of the different subregional forums.

In the particular case of the Andean subregion, the Sixth Meeting of Ministers of Agriculture of the member countries of the Cartagena Agreement, held in Lima, Peru in April 1988, entrusted IICA and the Board of the Cartagena Agreement (JUNAC) to prepare a proposal for a "Pilot Plan to Reactivate Agriculture in the Andean Subregion." In compliance with this request, IICA and JUNAC signed an agreement for inter-institutional cooperation in April, 1988, pledging to prepare the Plan of Action for the Andean subregion.

¹Working documents, the Ottawa Declaration and the recommendations of the Ninth ICMA can be found in Reactivating Agriculture: A Strategy for Development (San Jose: IICA, 1987).

²IICA, Plan of Joint Action for Agricultural Reactivation in Latin America and the Caribbean: Guidelines for Preparation (San Jose, June 1988).

Both IICA and JUNAC have thus shared the responsibility for writing this reference study. As a first step, a separate document was prepared for each of the five countries, by technical teams with members from IICA, JUNAC and the ministries of agriculture of the countries of the Andean subregion.

The consultation process in the subregion took two basic forms, channeled in two different directions.

The first consultative mechanism was to present and discuss earlier versions of this document in the following meetings, so that suggestions could be solicited from the representatives of the countries:

- Meetings of the Agricultural Council of the Andean Pact: the Tenth, held in Quito, Ecuador in March, 1988; the Eleventh, in Santa Cruz de la Sierra, Bolivia, in October, 1988; and the Twelfth, in Caracas, Venezuela in April, 1989.
- The Third Andean Meeting on Food Security, held in Cartagena, Colombia in September, 1988.
- The Subregional Technical Meeting to identify areas of cooperation among agricultural sectors of the Andean Group, held in Bogota, Colombia in February, 1989.
- The Interagency Consultative Meeting, called by IICA and held in San Jose, Costa Rica in March, 1989.

The second mechanism of consultation was a round of visits and interviews with authorities, officials and technicians of the five countries. This was done by an ad-hoc IICA/JUNAC team in February and March of 1989.

The preliminary work and the consultative process in the subregion culminated with a meeting of the presidents of Colombia, Ecuador, Peru and Venezuela and the minister of foreign affairs of Bolivia, held in Cartagena de las Indias on May 25 and 26, 1989, to celebrate the Twentieth Anniversary of the Cartagena Agreement. The meeting signed the Manifesto of Cartagena de Indias, agreeing: "To instruct the ministers of agriculture to implement the Strategy to reactivate Agriculture at the national level, the programs of joint action and the common policies that will allow the sector to participate fully in the subregional process."

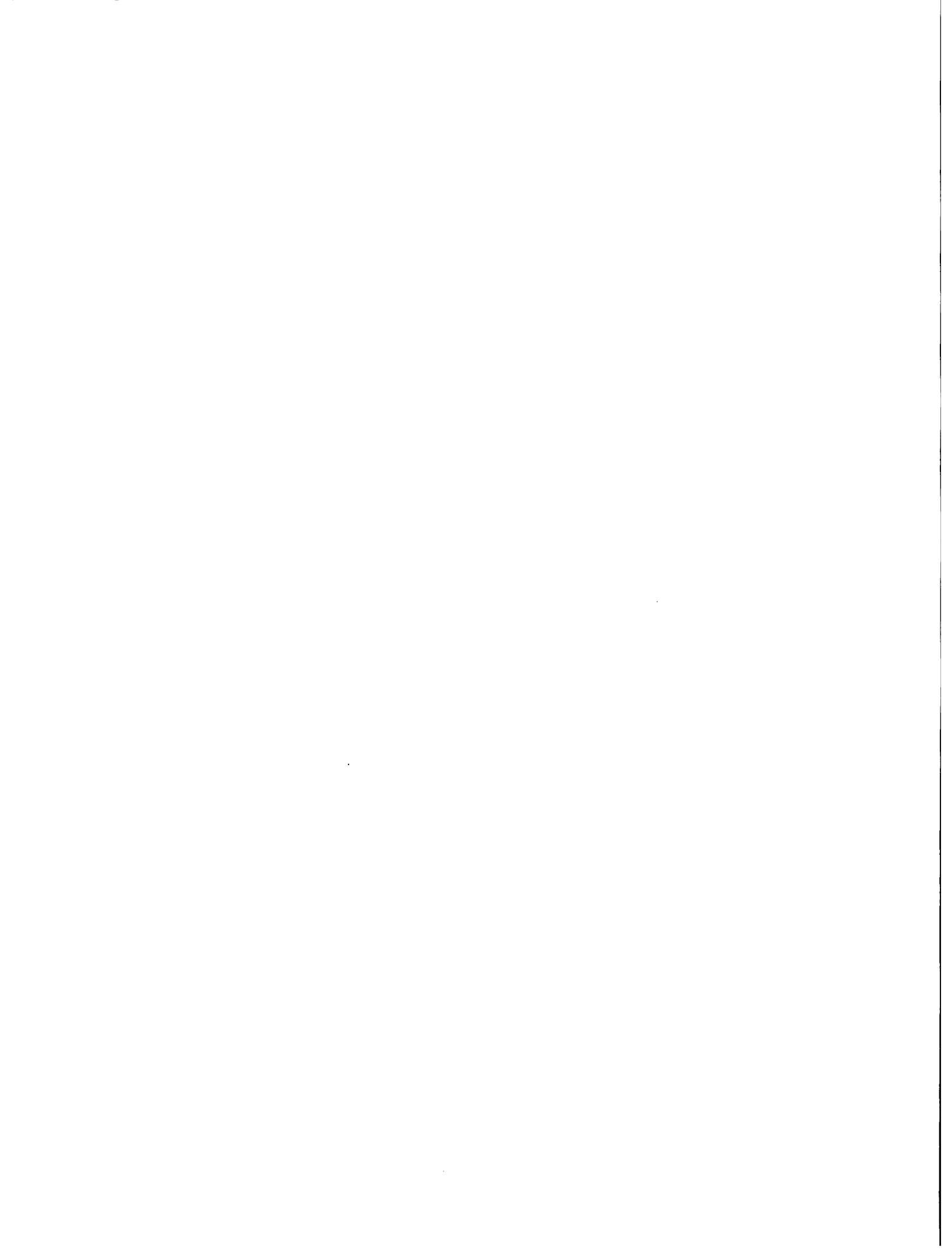
Finally, the document was presented to the consideration of the Ninth Regular Meeting of IICA's Executive Committee, which took place at Institute headquarters from June 12 to 16, 1989. The participants expressed their satisfaction with the document and asked that it be submitted for final consideration by the Inter-American Board of Agriculture, slated to meet in San Jose from October 8 to 15, 1989.

These consultative mechanisms provided essential input, which is now reflected in the reference document. This version of the paper includes modifications requested by JUNAC's Twelfth Agricultural Council and by IICA's Executive Committee, and can be considered a revised version of the "Strategy to

Reactivate Agriculture in the Andean Subregion and Areas of Joint Action." It is the subregional component of the "Plan of Joint Action for Agricultural Reactivation in Latin America and the Caribbean" (PLANALC). The process by which it was prepared ensures that this document reflects a high degree of a subregional consensus on the role that the agricultural sector should play in contributing to economic and social development, as well as the high-priority actions that need to be undertaken jointly to support national efforts for agricultural reactivation and development of the rural milieu. These strategies are described in greater detail in Chapters I, II and III of the document.

It should be pointed out that the areas of joint action were settled on only after shared problems had been identified as suitable to a joint operational approach. Each one falls under a specific strategy, whose central features provide a framework for determining what points to include. These areas were not intended to cover the full gamut of national agricultural development strategies. Defined in this way, the areas of joint action and the programs and projects identified in Chapter IV can contribute to the success of the reactivation strategy in each country. However, the national strategies need not necessarily be fully compatible with the subregional strategy.

Finally, four important points need to be raised. First, the notion of a strategy for reactivation and of the areas for joint action goes well beyond the mere publication and approval of a document. Instead, the document should be a point of departure for an on-going, participatory process whereby the strategy will be continuously revised and adjusted as a result of feedback and evaluation of joint actions and in response to trends in the agricultural, economic and sociopolitical environment in each country. Second, the programs of joint action presented herein leave open the possibility for identifying and including new subprograms and projects in the future, as long as they are consistent with the central features of the strategy and will contribute to agricultural reactivation and development of the rural milieu. Third, the programs of joint action as described in the document are intended to complement the programs and projects already being conducted by IICA and JUNAC in the subregion, and do not compete with them. Fourth, certain areas of joint action identified in the strategy, such as forestry and fishery development, cannot be formulated or implemented without the technical and financial contributions of specialized agencies.



I. THE AGRICULTURAL SECTOR AND ECONOMIC DEVELOPMENT IN THE ANDEAN SUBREGION

This chapter gives a brief diagnosis of the situation of agriculture in the subregion and of the economy in each country. It discusses the importance of the agricultural sector in the economy of the countries and identifies some of the conditions or factors that have prevented it from contributing fully to development.

A. TRENDS IN AGRICULTURE¹

1. Brief Description of the Situation in the Region and the Differences among Countries

The Andean subregion is made up of Bolivia, Colombia, Ecuador, Peru and Venezuela. These countries are essentially exporters of minerals, fuel and metals, with the exception of Colombia, whose major exports are of agricultural origin. In all the countries, agriculture makes a major, but declining, contribution to the gross domestic product. Of all five, Bolivia has the largest share of its population working in agriculture, over 50 percent, and Venezuela, the lowest, with less than 10 percent. The highest rates of poverty and unemployment can also be found in the agricultural sector, while agriculture provides the countries of the area with the bulk of their foodstuffs and raw materials for domestic use. The Andean Area registers a very low volume of intra-regional trade in agricultural products, although unregistered trade is of some significance. In general, the region's natural resources are experiencing growing rates of degradation, and over the medium and long term, this fact will raise the costs of agricultural production.

a. Bolivia

The contribution that Bolivia's agricultural sector makes to the gross domestic product (GDP) has declined steadily over the past few decades, although an upswing has been witnessed in recent years. The sector is dependent on certain imports and produces few exports. Furthermore, crop productivity levels are low, and rural zones are plagued with persistent poverty and unemployment.²

The crops registering the highest production values are potatoes, beef, corn and milk. Major crops in terms of production volume are sugar, potatoes, corn, bananas and plantains. In recent years, the

¹The figures are presented in more detail in Appendix 1 and in IICA's background documents.

²United States Agency for International Development (USAID), Economic and Social Data Services Division, All data currently available on Bolivia (Washington D.C., 1982).

land surface planted to quinoa and sorghum has increased significantly.³

Most of the country's agricultural products are marketed for domestic consumption. Major exports are sugar, cotton, soybeans, nuts and beef. Imports include wheat, dairy products, eggs and other foodstuffs. Food crop production, especially of grains, is concentrated on small farms, although the corn, rice and sorghum crops are gaining ground among medium-sized and large-scale producers in the eastern part of the country. Grains are usually produced under extensive farming systems, and productivity is low. In some cases, especially wheat, physical productivity has actually declined. The livestock sector is important economically, but its levels of growth and technology use are far below those of other countries in the sub-region. The country is a net importer of milk and dairy products.

The per capita value of production in rural areas averaged US\$350 in 1986, compared with the US\$926 per capita average for the country as a whole. In 1980, an estimated 86 percent of rural families lived below the poverty line, and 91 percent of the population economically active in agriculture could be found in the traditional sector.

An estimated 25 percent of Bolivia's land is made up of arid or semi-arid zones which have no protective layer of vegetation and where accumulation of salts is a serious problem. Soil fertility is generally low in the highlands as a result of uninterrupted use of the soil, overgrazing, and relatively little surface water.

b. Colombia

The agricultural sector in Colombia represents an increasingly small percentage of the GDP. Production volume has grown erratically over the years. The country has a marked technological duality between the peasant economy and the commercial economy. Agricultural exports play an important role in overall foreign trade, although production prices run high by comparison with international price levels. Pockets of poverty continue to exist in several rural zones throughout the country.

The declining contribution of agriculture to the GDP can be attributed to the process of economic development, as rising incomes fuel the demand for non-agricultural goods and services. Even so, the absolute value of agricultural production grew 62.5 percent from 1970 to 1985. This increase was directly associated with the growth of public investment, which climbed by 33.7 percent from 1970 to 1985.

The agricultural sector produces most of the foodstuffs and edible raw materials consumed domestically and generates much of the country's export income. After 1970, production of export items such as coffee

³USAID, Data on Bolivia.

and bananas began to surpass that of foods for the domestic market. Processed foods and raw materials also took the upper hand over foods for direct consumption.

The agricultural sector of Colombia is characterized by a traditional or campesino subsector and a commercial subsector, living side by side. Traditional agriculture has managed to adopt certain improved practices, but physical productivity continues to fall below that of commercial agriculture:

	<u>Traditional Agriculture</u>	<u>Commercial Agriculture</u>
	(in kg/hectare)	
Rice	1,494	5,242
Beans	533	1,115
Corn	950	4,512
Potatoes	7,782	23,756
Wheat	945	2,299
Cassava	6,000	16,000
Plantains	7,462	12,000

In 1980, an estimated 46 percent of the population economically active in agriculture could be found in the commercial sector, while 54 percent worked in traditional agriculture. In 1986, the per capita product in the rural sector averaged US\$838, compared to a nation-wide average of US\$1,330. Nevertheless, income figures tend to be highly volatile.

Colombia is a net agricultural exporter. The bulk of the country's foreign exchange comes from coffee exports, although nontraditional export income has been gathering strength in recent years. Agricultural exports in 1986 totalled US\$3.4 billion, or 66 percent of total exports. In the same year, the agricultural sector imported only US\$218.3 million.

In the 1972-1977 period, Colombian agricultural goods commanded favorable prices by comparison with other sectors. However, this favorable price ratio began to disappear after 1978. The agricultural sector became less profitable than industrial and financial activities, a situation which worsened in 1984 with the rising prices of imported inputs and the introduction of new taxes.

Food agroindustry has accounted for a stable 30 percent of total industrial GDP over the past few years. Agroindustry boasts 18 percent of all industrial establishments, 15 percent of total industrial employment and 15 percent of added value.

Fully 51 percent of Colombia's land is affected by surface water erosion. Mass movements of soil have been caused by erosion over 25 percent of the land. In recent years, landslides have increased due to the loss of plant coverage, with sometimes catastrophic consequences.

c. Ecuador

The relative contribution of Ecuador's agricultural sector to total GDP has been declining steadily for many years, although it stabilized at a low level in 1980. The use of technological inputs has risen sharply, and is partly responsible for registered increases in agricultural production. The domestic food supply is abundant. The country has a marked economic and technological duality between commercial agriculture and peasant agriculture. Production costs for crops consumed domestically are quite high. Large population groups in rural areas survive with very little employment and income.

In 1960, agricultural activities contributed 29 percent of the total GDP, but by 1986, the sector provided only 14.3 percent. This situation can be attributed in part to booming hydrocarbon production and real income growth, both of which altered the composition of demand. In absolute terms, nonetheless, the aggregate value of the agricultural sector increased 108 percent from 1960 to 1986. This growth is due partly to a change in the product mix, with a preference for higher unit-value crops. Other factors include a net increase in agricultural land, from 3.5 million hectares in 1970 to 6.2 million hectares in 1986; and major infusions of agricultural credit, which in grew in real terms from 2.4 billion sucres in 1979 to 3.8 billion in 1985. Changes in productivity have also been significant.

With the exception of wheat and, to a lesser degree, rice, Ecuador produces most of the food consumed by its population, although considerable imports of soybean oil, barley and oats are needed from time to time. Traditional exports include bananas and coffee, and the most important nontraditional exports are shrimp, cut flowers, fruits and vegetables. The trade balance has also benefited from agro-industrial seafood exports including fish, crustaceans and shellfish. In 1986, coffee sales reached US\$300 million and shrimp revenues totalled US\$288 million, for the first time outstripping banana sales.

The clearly defined dualism in Ecuadorean agriculture can be better understood if it is quantified in terms of available economic resources and levels of technology in use.

For example, production factors on small traditional farms, without including land, were worth 13,877 sucres in 1974, while the figure for large commercial establishments was three times as great. The value of constructions and other infrastructure, which are directly proportional to the size of the farm, was twenty times greater on commercial enterprises than on small farms.

Ecuador is an efficient, low-cost producer of tropical crops, but its costs for producing temperate zone crops are quite high. For example, farmgate prices for corn and soybeans run significantly higher than international market prices, while cacao and cotton producers sell their goods at prices lower than those on the international market. This means that, generally speaking, the country is favorably positioned to compete with other tropical countries, but cannot compete with temperate zone countries. This, in turn, suggests that local consumers must pay high prices for domestically-grown corn and soybeans.

In 1986, the country had a per capita GDP of US\$1,326, and a rural per capita GDP of only US\$400. The latter figure masks the tremendous variations between the traditional sector and the commercial sector.

d. Peru

The country's environmental conditions have closely shaped the practice of agriculture. The sector, including fishing, contributes a small and shrinking proportion of the GDP. Absolute increases in production are associated with the incorporation of new lands and the growth of the economically active population. The country produces insufficient quantities of a number of food products to meet domestic demand. Agricultural and fishing exports make up only a small proportion of total exports. As in Colombia and Ecuador, the country has a sharply marked technological dualism. The rural population earns less income, on the average, than the rest of the population.

The country produces inadequate amounts of various food and agro-industry products to meet domestic demand. The most serious problems are associated with wheat, whose shrinking harvests with each passing year oblige the country to import more and more. Imports of other products, such as milk, hard yellow corn, barley and soybean oil, are also on the rise.

From 1982 to 1985, the agricultural and fishing sector provided between four and five percent of total exports, with coffee an important export crop. In 1986, the total sector brought in export earnings totalling US\$290.1 million, of which US\$264.6 million consisted of coffee, maté leaves and spices.

Traditional peasant agriculture plays a very important role in supplying domestic food needs. The subsector produces 55.1 percent of grains for human consumption, 78.6 percent of all vegetables, 70.6 percent of fresh legumes, 73.2 percent of tubers and root crops and 71.9 percent of non-perennial fruit crops. It also produces 54.8 percent of the country's coffee and 67.5 percent of cacao. In 1977, the peasant sector accounted for 54.9 percent of the gross value of agricultural production.

In terms of production costs, the country is quite efficient in such products as cotton, coffee and cacao. In 1986, cotton producers

received prices equivalent to only 42 percent of the international price. On the domestic market, however, this advantage vanishes. For example, domestic corn prices in 1986 were 2.43 times as high as the international market price.

An estimated 68 percent of all rural families are living below the poverty line, and 78 percent of the economically active population pertains to the traditional agricultural sector. In 1986, the overall per capita GDP averaged US\$1,250, but with only US\$297 per person in rural zones.

Water erosion affects at least 30 percent of all Peruvian territory, especially in the Andes, on both the arid western slopes and the moist eastern watersheds. Furthermore, 34 percent of Peru's most fertile land, located in the coastal region, is affected by problems of salinity. Soil salinization is advancing at least as fast as the incorporation of new land through large-scale irrigation projects. It is also estimated that 20 percent of the country's total land is made up of arid zones.

e. Venezuela

The Venezuelan economy is essentially dependent on oil and minerals. In 1986, agriculture employed only 6.2 percent of the economically active population, and together with hunting, forestry and fishing, made up only 7.3 percent of the GDP. The aggregate value of agricultural production grew by 46 percent from 1970 to 1985. In recent years, public investment has gone hand in hand with heavy production subsidies in the form of support prices, subsidized credit and subsidies for fertilizer purchases.

The country must import much of the basic food consumed domestically, especially grains, milk and red meat. This has happened despite the government's effort to reduce food dependency. In 1986, agricultural exports accounted for only 1.4 percent of the country's total exports.

In recent years, Venezuelan agriculture has moved decisively to incorporate greater levels of technology. Fertilizer use rose from 140,000 tons in 1975 to 408,000 tons in 1985. The number of tractors in use grew from 27,756 to 43,500 during the same period.

Despite these more technically advanced production methods, major variations can still be found in the use of technology for certain crops. For example, three clearly differentiated systems are used for producing black kidney beans: a) monoculture using advanced technology, with an average production of 842 kg/hectare; b) monoculture with low levels of technology, producing 537 kg/hectare; and c) association with rows of corn or cassava, adding no technological inputs whatsoever, to produce 350 kg/hectare.

Venezuela has traditionally been a high-price corn producer. In 1982, the country registered a 3.67 ratio between local farmgate prices and

international prices for corn. In 1986, the figure eased down to a still high 3.21. The strategy adopted to reduce dependency on external supply has been to raise support prices with the use of exchange-rate subsidies, thus bringing down the price of fertilizer, and lowering the cost of domestic production.

Data from 1986 show that the per capita GDP was US\$2,762, while total per capita production in rural areas was US\$1,115.

Soil erosion in Venezuela is most visible in the Andean zone, where most of the cultivated land has been affected. Erosion is beginning to reach significant levels in the lowlands as well, due to the texture and structure of the soil and the type of intensive agriculture practiced there.

2. Importance of the Agricultural Sector and Constraints on its Contribution to Development

Agriculture is closely linked to both the urban industrial sector and the external sector of the economy. Products such as foods and raw materials flow from agriculture into the urban industrial sector, along with resources including capital, labor and entrepreneurial talent. At the same time, the urban industrial sector channels into agriculture such products as technological inputs and capital and consumer goods, as well as resources including capital for investment and credit, managerial skills, technology and education. Diverse transactions take place between agriculture and external sector, as well. Agriculture provides the external sector with foodstuffs and raw materials, and it receives capital goods (including machinery), consumer goods, technological inputs, technology and investment capital.

The parallel development of these three sectors--agriculture, the urban industrial sector and the external sector--activates what are often known as forward and backward linkages. Forward linkages arise when supply increases beyond the needs of the family and the community, and include transportation, processing and distribution. Backward linkages can be found in the rising demand for inputs such as seeds, fertilizers, energy products, credit and so forth. In developed economies, these linkages add more to the GDP than the aggregate value of agricultural production. Backward linkages also generate large amounts of employment. At present, backward linkages are understood as the inputs that other sectors contribute to the gross value of agricultural production, while forward linkages are the proportion of agriculture that is incorporated into other sectors.

Because of these linkages with other sectors, a growth slump in agriculture can unleash many consequences: a) rising prices (inflation), with their heavy impact on the low-income population that spends most of its income on food; b) an exchange-rate crisis, with declining export earnings (in countries like Colombia, whose major exports are derived from agriculture); and c) a slowdown or stagnation of industrial development, as raw materials become unavailable or no surplus is left over to be saved for investment.

Below are examples of the magnitude of relations between agriculture and other sectors of the economy:

- In Colombia, inflation rates between 1970 and 1982 were generally lower whenever agriculture registered rapid growth rates of food and raw material production.
- In Colombia, for every peso of agricultural production value in 1970, 0.83 consisted of inputs from agriculture, with 0.17 as inputs from other sectors. Also for every peso of agricultural production value, 0.50 was consumed by food and related industries, while 0.44 went for final demand (consumption by the population, export, and others), with 0.02 consumed by the agricultural sector itself and 0.04 by "other industries and other sectors."
- In Peru, in 1968, for every sol of agricultural production value, 0.46 derived from inputs by agriculture, with 0.54 from inputs by other sectors. As for the final destiny of production, for every sol of agricultural production value, 0.74 was used to meet final demand, 0.12 for food and related industries, 0.11 consumed by the agricultural sector, and 0.03 consumed by "other industries and other sectors."
- In Ecuador, from 1972 to 1979, the percent of the agricultural supply channeled into other productive sectors for final processing increased from 42.6 percent to 56.9 percent, meaning that agriculture was developing closer ties to other productive sectors.
- In Venezuela in 1981, over 90 percent of the nation's total output from agriculture and fishing went to agroindustries engaged in processing fish and other seafood, livestock slaughter, meat preparation and preservation, sugar processing and refining, production of alcoholic beverages, and textile production (not including garments).

For some time, it was believed that the transfer of the labor force from agriculture into the urban-industrial sector was one of the important contributions that agriculture could make toward economic development. This idea has now come under fire, as the urban industrial sector is unable to absorb all the workers moving from the countryside to the cities. This is why agriculture is being encouraged to increase or maintain its share of labor force absorption and to keep the population in rural zones.

Keeping the rural population at home basically means checking the flow of migration toward the cities. One of the benefits of this would be to slow down the pollution-caused deterioration of the urban physical environment. Furthermore, the population living in the cities would become more secure, and there would be less pressure to channel social investments entirely into urban areas, an emphasis which further fuels the migration process.

It will not be possible to keep the population in the countryside unless certain measures are taken to redirect public investment, encourage

agroindustry and strengthen forward and backward linkages. Agricultural employment is highly inelastic by comparison with output. Figures on change in employment triggered by changes in output are 0.4 for agriculture, 0.4 for manufacturing, 0.5 for mining, 0.6 for transportation, 0.8 for construction and 1.0 for miscellaneous services. Average labor productivity and average income are also lower in the countryside than in the city. Health and education services are disproportionately concentrated in the cities. Furthermore, as incomes rise, the demand for food products grows more slowly than the demand for other goods and services, such as housing, health, education and recreation.

Much of the population living in rural areas qualifies as low-income. By around 1980, of the total population of 70.7 million in the Andean sub-region, an estimated 17.5 million consisted of rural poor: 2.9 million in Bolivia, 5.2 million in Colombia, 2.9 million in Ecuador, 4.8 million in Peru and 1.7 million in Venezuela.⁴

If this low-income rural population could be incorporated into the development process, the benefits would include: a greater demand for goods and services and for the resources and inputs of the urban industrial sector and the external sector; a lessened flow of migration from the country to the city; an improved quality of life for much of the overall population; more efficient production and, eventually, lowered social tensions in the countryside.

The effort to incorporate the low-income rural population into the development process should be understood primarily as a drive to raise incomes and improve the population's access to services that will give them a better quality of life.

If agricultural incomes rise, and more and better services become available, the sector will more readily obtain access to information and to technological inputs. This can improve the productivity of labor and reduce the unit costs of production in agriculture.

The sector's contribution to the economy is held back partly by the imbalance in income distribution. Although few recent studies have been done on this subject, an essay on poverty in Colombia, based on 1971 figures, shows that, in terms of basic needs:⁵

- Approximately 49 percent of urban households and 46.5 percent of the urban population lived below the "poverty line."
- Approximately 72.7 percent of rural households and 68.8 percent of the rural population lived below the "poverty line."

⁴Inter-American Development Bank, Economic and Social Progress in Latin America, 1987 Report (Washington D.C.).

⁵C. Acevedo, "La pobreza en Colombia: una medida estadística," El Trimestre Económico 53 (Mexico, April-June 1986): 352-326.

The essay goes on to show that these population groups have a very low level of well-being, with food purchases absorbing nearly half of all expenditures by urban households and fully two thirds of the expenditures by rural families. In general, the rural poor lack such basic services as safe drinking water, electricity and health care. The rural population spends very little on education and recreation, by comparison with urban families at the same income level. In essence, a high proportion of Colombia's poor consists of disproportionately large families working in agriculture.⁶

Another study estimates that by around 1970, the following percentages of households subsisted below the "poverty line" (defined as meeting minimum private consumption needs) and the "absolute poverty line" (meeting minimum food needs):⁷

<u>Country</u>	<u>Percentage of households below the poverty line</u>		<u>Percentage of households below the absolute poverty line</u>	
	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Colombia	38	54	14	23
Peru	28	68	8	39
Venezuela	20	36	6	19

In Bolivia, it was estimated in 1970 that the poorest 40 percent of the population received 13 percent of all income. By contrast, the wealthiest 20 percent had access to 59 percent of all income.⁸

Formal employment of the economically active population in urban areas of Latin America was 64.0 percent in 1980-1985.⁹ However, the countries of the Andean subregion registered "high" rates of unemployment in 1986, as follows:¹⁰

Bolivia	15.0
Colombia	13.8
Ecuador	12.0
Peru	10.8
Venezuela	11.8

⁶C.Acevedo, "La pobreza en Colombia," 333-335.

⁷O. Altimir, "La pobreza en América Latina: un examen de conceptos y datos," Revista de la CEPAL 13 (Santiago, Chile: ECLAC, April 1981), 77.

⁸USAID, Data on Bolivia.

⁹IDB, 1987 Report, 130.

¹⁰IDB, 1987 Report, 126.

To these figures should be added the population with "visible underemployment" (those who work less time than they would like) and "invisible underemployment" in the forms of "disguised underemployment," "hidden underemployment" and early retirement.

If we combine the rate of open unemployment with that of underemployment (expressed as the equivalent of persons fully employed), the "underuse" of labor resources in agriculture in 1980 in the countries of the Andean subregion can be estimated as follows:¹¹

Bolivia	50.9
Colombia	18.7
Ecuador	37.9
Peru	32.0
Venezuela	15.1

A basic trait of the rural zones in the Andean countries, which conditions the performance of the agricultural sector, is the heterogeneity of the productive structure. A significant part of this structure is the peasant economy, with its very large population. In fact, the campesinos number 35 million people, of whom nearly 30 million live below the absolute poverty line and register a rate of underuse of labor that tops 30 percent.

Despite these pessimistic indicators, peasant agriculture in the Andean subregion continues to make major contributions, as it has always done in the past. This group is responsible for much of the gross value of agricultural production, food production and supply, generation of foreign exchange, employment generation and contribution to capital formation in the sector.

Estimates by the Board of the Cartagena Agreement (JUNAC) show that peasant agriculture in this subregion generates around 60 percent of the food supply. For example, from 50 to 70 percent of the corn, rice and wheat marketed in Ecuador is produced by small-scale farmers. In Bolivia, these producers are responsible for 70 to 80 percent of the corn, rice and wheat. The campesino economy also produces over 50 percent of the meat and milk supply in the countries of the subregion.

Peasant agriculture also produces traditional export items, such as coffee, thus contributing to national foreign exchange earnings. Seventy-five percent of all coffee exports from Bolivia are produced on traditional farms, 30 percent in Colombia, 70 percent in Ecuador, 55 percent in Peru and 63 percent in Venezuela. This group produces nearly 70 percent of all cacao exports in Ecuador, Peru and Venezuela.

¹¹N.E. García, "Absorción creciente de subempleo persistente," Revista de la CEPAL 18 (Santiago, Chile: ECLAC, Dec. 1982), 53.

Employment estimates for the year 1980 indicate that campesino agriculture directly contributed nearly 12 million jobs.

Finally, it is important to stress the substantial contribution that peasant agriculture has made to economic growth in the subregion. Industrialization processes in these countries were based on a transfer of resources from the rural sector to the urban sector, and the peasant economy has been the backbone of this process. Small-scale producers making intensive use of the family labor force and mobilizing resources with a low opportunity cost partially funded industrialization in the subregion.

Any sincere desire to galvanize campesino participation in the economic development process and the reactivation of the agricultural sector of the subregion must be based on accurate information. It is first necessary to understand the specific characteristics of this group in order to design policies and strategies that are appropriate.

The most important groups in the category of the rural poor are small-scale farmers, peasants or campesinos, and wage labor. Each of these groups assigns a specific place to the indigenous population, to women and to rural youth. The composition of these groups is dynamic, consisting of peasant families, working class families, indigenous groups, young people and women. All these subgroups have particular characteristics that make the overall category extremely heterogeneous. The so-called peasantry in general is made up of small-scale farmers working the land as owners, renters, settlers, squatters or share croppers.

The level of poverty in this group depends primarily on access to the factors of production, and environmental conditions in the regions where they live. Thus, rural poverty tends to be concentrated areas where ecosystems are fragile.

This group also has specific productive, economic, social and cultural characteristics. Production is typified by intensive use of the family labor force, limited use of capital, and production primarily for on-farm consumption, with variable amounts of produce targeted for domestic and foreign markets.

In general terms, it can be stated that some of the general tendencies have been exacerbated by drastic economic adjustments triggered by the financial crisis plaguing the countries of the region. The percentage of peasant families that must seek off-farm employment in order to survive is rising steadily. Thus, rural families with little access to the land must compensate for their shortage of productive resources by introducing a wide range of agricultural and off-farm activities into their survival strategy.

As a result of the limited supply of land, in 1983 nearly 82 percent of the farms in the subregion measured less than 10 hectares. These farms typically have low levels of productivity, generate insufficient income even to meet the most basic consumption needs, and thus yield low rates of

savings. Risk factors and low profitability have also kept down the rates of investment.

This situation stands in contrast to the intensive process of capital formation that is needed to finance development, a need which is even more critical in the peasant economy. Because this subsector has so little capital, it rarely accumulates savings, and this interferes with the smooth operation of almost any incentive mechanism.

3. Macroeconomic Policies, Sectoral Policies and the Institutional System

Macroeconomic policies play a leading role in determining how resources are allocated among sectors.¹² In this decade, as in years past, macroeconomic policies have worked alongside sectoral policies to shape agricultural production and rural well-being. Some of the policies are designed basically to make the sector more profitable by modifying prices, costs and producer income. Others are the government's means of supporting producers by providing services such as research and extension, formal education, and health programs. Perhaps the most visible policies consist of direct public investment in irrigation systems, settlements, agrarian reform and rural development.

Agriculture in the subregion is affected by macroeconomic policies addressing such matters as exchange rates, interest rates, credit, prices and wages. Various policies oriented toward the development of the industrial sector have also had a major impact on agriculture.

At the beginning of this decade, Bolivia, Ecuador and Venezuela fixed their exchange rates at levels below the natural equilibrium. This brought down the prices of imports and made the countries' exports less attractive; consumption was fueled, which drained away foreign exchange. The cheap imports competed with local products on the domestic market, and the import-substitution industries came to a standstill.¹³ Meanwhile, all the countries lost opportunities to increase their exports. Subsequent policies to reestablish real exchange rates have made marketable goods (mostly agricultural) relatively more expensive than non-marketable goods (construction, services.) Such policies have been beneficial to agriculture in recent years in two of the three countries on which information is available.¹⁴ The prices of marketable goods in 1984-1986 in Venezuela held

¹²A. Chamber and J. Wilton, Las políticas macroeconómicas y el rendimiento agrícola (Washington, D.C.: International Monetary Fund, 1986), 6.

¹³M. Lajo, "La política económica y el sistema alimentario: La administración de la dependencia," in E. Aramburu et. al., Priorización y Desarrollo del Sector Agrario en el Perú (Lima, Peru: Friedrich Ebert Foundation, 1986), 591.

¹⁴Figures from ECLAC and FAO, as quoted by A. de Janvry, Investment Strategies to combat Rural Poverty: Notes for Latin America (Berkeley), 5. Mimeo.

a ratio of 1.22 with the prices of marketable goods in 1970-1979; the same ratios are 1.04 in Colombia and 0.93 in Peru.

Subsidized interest rates for agricultural credits have brought down the cost of money for producers throughout the subregion. They may have also tended to divert credit toward other sectors of the economy. When these subsidies have coincided with soaring prices, as occurred in Bolivia, the very stability and existence of development funding institutions have been placed in jeopardy.

The supply of agricultural credit has been dropping off in recent years in Bolivia, Colombia and Ecuador, while it has risen in Venezuela and performed erratically in Peru. The figures in the following table are given in absolute terms, measured in U.S. dollars.¹⁵

<u>Year</u>	<u>Bolivia</u>	<u>Colombia</u>	<u>Ecuador</u>	<u>Peru</u>	<u>Venezuela</u>
1982	142.8	1,109.6	1,147.3	665.7	2,212.8
1983	154.6	1,223.6	1,072.4	540.5	2,263.6
1984	215.1	1,131.9	556.6	565.1	2,453.6
1985	197.0	993.2	n/a	447.7	2,630.1
1986	138.0	923.8	n/a	843.0	n/a

By comparison with the aggregate value of the sector, which has grown in absolute terms in all the countries, the credit supply has been slipping steadily, to the detriment of technology adoption and fixed investment.

Price policy takes the form of support prices or guarantee prices set above natural price levels. These supports have been used extensively in the countries of the Andean subregion. The purpose of such policies is basically to boost the production of one or more product lines, generally over the short term. High prices, which favor the producer, have a negative impact on the consumer. Colombia found that rising prices for wheat and corn triggered a high response in terms of production and land under cultivation, while the response was a bit less for sorghum and low for barley.¹⁶ Venezuela has been using support prices for corn, rice and sorghum since 1984, and has expanded public and private storage facilities.¹⁷ Price support policies have not been in use in Bolivia since 1985.

¹⁵Board of the Cartagena Agreement, JUNAC, Estadística agropecuaria andina, 1982-1986 (Lima, Peru, 1988), 12.

¹⁶S. Perry and J.J. Perfetti, "Proteccionismo agrícola: El caso de los cereales en Colombia, Revista de Planeamiento y Desarrollo (Bogota: March-June, 1987) 179.

¹⁷IICA background documents.

Various policies to promote industry, such as duties, development credit and low interest rates, have been applied extensively, with partially negative effects on agriculture. Such policies have kept the prices of durable, intermediate and capital goods higher than those of agricultural products, and this has threatened the profitability of the sector and the well-being of farmers.

The ministerial councils of the economic group have a crucial role to play in setting macroeconomic policies. In all the countries of the region, the minister of agriculture sits on the government's economic team. In general, the national planning offices serve as technical secretariats to these councils. For example, Colombia has a National Economic and Social Policy Council (CONPES) made up of the ministers on the economic cabinet and other representatives of the public and private sectors. This council is charged with discussing and setting macroeconomic policy, under the technical secretariat of the National Planning Office. Bolivia has a Ministry of Planning and Coordination, whose minister heads the economic cabinet. Even so, not all decisions on macroeconomic policy are taken by the economic cabinet. In Colombia, the Ministry of the Treasury and the Monetary Board often make decisions on exchange-rate policy, monetary policy and fiscal policy.¹⁸

In an earlier time, the national planning offices were responsible for formulating macroeconomic policy. Today, some countries are encouraging processes based on greater participation, more closely allied to the political and administrative sector. Nonetheless, the planning offices have only occasional contact with representatives of such social groups as consumers and agricultural producers.

Producers, wage earners and other social groups targeted by these policies still have little formal participation in developing guidelines for the agricultural sector. At present, the ministers of agriculture receive advisory assistance from agricultural sector planning offices and policy analysis groups for setting sectoral policies.

It has become increasingly clear that the sectoral planning offices are isolated from those who make policy decisions. They fail to coordinate their work with the shapers of macroeconomic policy. Moreover, the agricultural sector planning offices work at cross purposes with the mechanisms or agencies of policy implementation.

The countries have attempted to solve these problems by setting up ad hoc agricultural policy analysis groups. These units are located in close proximity to the ministers and deputy ministers of agriculture. Peru has even received external funding to help with its group's operations.

Policy instruments are administered on behalf of the public sector by the agencies responsible for carrying out specific programs and projects. In

¹⁸L.E. Rosas, "La planeación y la política macroeconómica," Revista de Planeación y Desarrollo 40 (Bogota), 50.

the late 1970's and early 1980's, it became clear that very few of these projects were being transformed into effective instruments for increasing the pace of investment, and the use of disbursed funds had been extremely slow. This led the governments to reexamine the rationale and internal efficiency of their own institutions. For example, in the spheres of decentralized administration and institutional management, the following phenomena were found:

- A widening gap between formulation and implementation of sectoral policy.
- A tendency to preserve centralized decision-making, instead of transferring authority to the regions.
- Inadequate managerial skills for designing and operating mechanisms that would improve the ability of institutions to respond to the needs and potential of farm producers, and to coordinate the implementation of sectoral policy.

The following statement was made in reference to Bolivia: "Few of the technological packages ever emerge from the experimental stations or go into the hands of producers because there is so little coordination or complementarity between researchers and extension agents. Consequently, over 80 percent of the country's food producers...have too little knowledge of agricultural technology and of how to organize production."¹⁹

A recent document, taking a more general view, stated, "The different efforts for rural development in Latin America have borne little fruit. Agrarian reform programs, while they may have been traumatic from the political viewpoint, have failed to eliminate widespread rural poverty, and so has the settlement of new land...Many other measures to encourage rural development, such as the establishment of farmer cooperatives, agricultural credit programs for small-scale producers, the organization of extension services and others, have generally yielded quite modest results. The integrated project approach was supposed to correct the shortcomings of the one-dimensional projects... Disappointment with the outcome of the strategy was inevitable."²⁰ A specific evaluation study concludes, "Although the concept of a multi-faceted approach to rural development seems sound and appeals to many people, its real application has been disappointing in many cases. Measurable benefits often fail to meet planning goals...The modesty of achievements made to date can be attributed to the complexity of the problem, inappropriate structures and the inexperience of the institutions (most of them in the public sector) which are asked to carry out project designs."

The failures of programs and projects by the institutions prove detrimental

¹⁹A.J. Sejas, La Agricultura de Riego en Bolivia (1986).

²⁰IDB, 1986 Report, 150-151.

to production, farmer income, consumer demand, industrial production costs and the competitive position of exports.

B. CHANGES IN THE ENVIRONMENT: THE 1980'S

1. Changes in Major Variables: General Downturn and Growing Complexity

Major changes have taken place in the economies of the Andean countries, if recent years are compared with the early 1970's. One such change in some countries is the slowdown of growth rates for services and industry. The population has been shifting from the countryside to the cities, and in the most heavily populated urban areas, into the informal sector. While export growth has been uneven, imports have generally declined. The countries have gone into debt, and the net capital flow has tended to diminish. Security problems have multiplied, especially in rural areas, and the activities of the drug trade have seriously affected institutions, especially in Bolivia, Colombia and Peru.

From 1971 to 1980, the economies of the region's countries sustained "high" and "very high" production growth rates (4.5 percent per year in Bolivia, 5.5 percent in Colombia, 8.9 percent in Ecuador, 3.5 percent in Peru and 4.1 percent in Venezuela). With the advent of the 1980's, production in some countries began to slip. In Bolivia, for example, production grew by only 1.5 percent in 1987, following several years of contraction. Growth has also slumped in Ecuador and Venezuela, has been uneven in Peru and has tended to rise in Colombia.

From 1970 to 1980, Ecuador's industrial sector ballooned by 161.8 percent, and the services sector by 169.3 percent, while agriculture saw only 37.4 percent growth. In Peru the industrial sector expanded by 72.8 percent and services, 30.2 percent, with agriculture actually falling 0.5 percent. Growth was more "balanced" in Colombia, where the services sector grew by 81.6 percent, industry by 69.3 percent and agriculture by 53.1 percent. A similar trend was found in Bolivia, with growth rates of 66.6 percent for services, 41.4 percent for industry and 54.2 percent for agriculture. Finally, in Venezuela, the services sector expanded by 71 percent, while industry (which includes fuel and mineral production) crept up 25.8 percent and agriculture, 34.4 percent.

From 1978 to 1987, consumer prices in the Andean countries soared in an atmosphere of double-digit inflation, although some exceptions did occur. The 1982-1985 period was a time of true hyperinflation in Bolivia. From 1983 to 1985, prices in Peru rose by more than 100 percent. Venezuela, by contrast, reported moderate inflation in 1978, 1982-1983 and 1985.

From 1980 to 1987, gross domestic investment as a proportion of the GDP fell below the average levels of the 1960's and 1970's in all the countries of the subregion with the exception of Colombia. Gross domestic investment averaged 19.7 percent of GDP for the five countries in 1960-69; 22.9 percent in 1970-79; and 18.3 percent in 1980-87. This situation seriously threatens possibilities for future production growth. The 1980-87 period,

with its low production growth rates and heightened inflation, can be classed as a time of stagnation with inflation.

In all the countries, urban population growth has outstripped total population growth, which suggests that rural-to-urban migration is an important factor in the growth of cities. From 1971 to 1980, the urban population grew by 3.7 percent in Bolivia, 2.8 percent in Colombia, 4.9 percent in Ecuador, 3.9 percent in Peru and 4.4 percent in Venezuela.

Population growth in the cities has been linked with the appearance and consolidation of an informal sector in the urban economy. Peru's informal sector is estimated to absorb 60 percent of the total urban labor force. In Quito and Guayaquil, it absorbs 48 percent, in Bogota, 47 percent, in Caracas, 40 percent and in La Paz, 57 percent.²¹

Between 1971 and 1980, employment expanded faster in the service sector than in industry, except in Venezuela. The growth of service sector employment was greatest in Ecuador, where it measured 86.7 percent. In Colombia, even though employment in services was relatively less, it still grew by 45.1 percent. The growth of employment in industry ranged from 84.2 percent in Venezuela down to 20.8 percent in Bolivia. The proportion of the labor force employed in agriculture shrank in Ecuador and Venezuela and rose in Peru (by 18.1 percent), Colombia (11.8 percent) and Bolivia (9.7 percent). Rapid growth of the service sector has continued into the present decade.

Open unemployment in urban areas has generally risen in the Andean countries in the 1980's. For example, in Bolivia, the annual mean rate climbed from 7.5 in 1980 to 21.5 in 1987. In Colombia, the unemployment situation improved in 1986 and 1987. In Ecuador, open urban unemployment rose from a mean annual rate of 5.7 in 1980 to 12.0 in 1987. In Peru, open unemployment crept up from 7.0 in 1980 to 11.8 in 1985, but dropped dramatically to 5.4 in 1986. Finally, in Venezuela, it jumped from 6.6 in 1980 to 14.3 in 1985 and then retreated to 10.6 in 1987.²²

Real wage levels from 1980 to 1986 are also revealing. Wages improved in Colombia from an index of 100.0 in 1980 to an index of 113.0 in 1986, but fell sharply in Ecuador, from 100.0 in 1980 to 72.7 in 1986. The slide was even more marked in Peru, where the 1980 index of 100.0 had crumbled to 56.4 in 1986. Wages in Venezuela fell between 1980 (100.0) and 1984 (66.7), but rebounded in 1985 and 1986, when they finished the year with an index of 109.7.²³

The overall income of the population is measured in terms of GDP per inhabitant per year. This indicator increased in all the countries between

²¹ IICA background documents.

²² IDB, 1988 Report, 25.

²³ IDB, 1988 Report, 27.

1970 and 1980. The upturn was modest in Bolivia, where it rose from US\$1,068 in 1970 to US\$1,268 in 1980; in Peru, from US\$1,264 to US\$1,374; and in Venezuela, from US\$3,066 to US\$3,408. Growth was more striking in Colombia (from US\$926 to US\$1,277) and Ecuador (from US\$815 to US\$1,416).

During the 1980's, the balance of payments has been strangled by the combined effects of rising foreign debts, deterioration of the terms of trade and shrinking export income.

High levels of external indebtedness in the countries of the Andean subregion is a relatively recent phenomenon, which began in the late 1960's and early 1970's. Since that time, the debt has been growing unabated. In Venezuela, the 1978 external debt of US\$16.76 billion paled beside the 1986 total of US\$33.60 billion. Ecuador's debt jumped from US\$3.98 billion to US\$9.90 billion during the same period. Bolivia's nearly doubled from US\$2.16 billion in 1978 to US\$4.14 billion in 1986. The debt in Colombia snowballed from US\$5.10 billion to US\$14.76 billion, while Peru's climbed from US\$9.66 billion to US\$14.35 billion. At the same time, the net balance of transactions by the monetary sector (total capital revenues and payments), which in most cases was positive in the 1970's and early 1980's, slipped into the red in recent years. Bolivia had negative balances almost every year from 1980 to 1985. Colombia registered negative figures in 1984 and 1985; Peru, in 1982 and 1983; and Venezuela, in 1983 and 1984.

The ratio between foreign debt and value of exports gives another view of the intensifying process of indebtedness, as can be seen in the following table:²⁴

	Ratio: External debt / Value of exports x 100	
<u>Country</u>	<u>1982</u>	<u>1987</u>
Bolivia	393	767
Colombia	232	246
Ecuador	231	398
Peru	281	445

The countries of the Andean subregion are basically exporters of mineral fuels and metals, with the exception of Colombia, whose major exports are agricultural. All the countries are importers of machinery and equipment for transportation and manufacturing. In addition to these goods, the private sector of the countries has become a major exporter of capital, while the public sector imports capital.

²⁴ECLAC, "Balance preliminar de la economía latinoamericana, 1987," Notas sobre la Economía y el Desarrollo 455-456 (Dec., 1987), 23-24.

This means that the international environment for development in the subregion has been extensively influenced by the prices of fuel (especially oil) and minerals and metals (such as tin, copper and silver). The prices of agricultural products (such as coffee and bananas) have also made themselves felt. Interest rates on capital are another determining factor in the development of the region, as are prices of imported goods.

Oil prices experienced a major upswing in 1973 and another in 1980, and this provided additional export income for Venezuela, Ecuador and Peru. These rises were followed by declines in international oil prices, especially since 1985. A mild recovery took place in 1987 and early 1988, followed by a sharp downturn.

Tin prices rose steadily from US\$1.66 per pound in 1970 to US\$7.61 in 1980, but by 1985 had slipped to US\$5.43, and hit a low of US\$2.86 in 1986. Bolivia thus received bonus foreign exchange earnings through 1985, but this income was cut drastically in 1986.

Copper prices on the world market performed erratically from year to year. They rose steadily from US\$0.64 per pound in 1970 to US\$0.99 in 1980, then dropped to US\$0.79 per pound in 1981 and US\$0.62 in 1986. A sharp upswing was experienced more recently. Silver prices exploded from 1970 through 1980, when the price of the troy ounce soared from US\$177.1 to US\$2,057. By 1986, however, the price had dwindled to US\$614 per troy ounce. Mild Colombian coffee experienced considerable price expansion in the 1970's, from US\$0.56 per pound in 1970 to US\$2.40 in 1977. By 1985, the price had fallen to US\$1.53, then rose to US\$2.20 in 1986 and again declined in 1987.

The price of bananas, an important source of foreign exchange for Ecuador, has risen, in current dollars, from 1970 through 1987, with some year-to-year fluctuations.

Real interest rates on the dollar, which were low and falling from 1960 to 1980, leaped to historic highs in 1981-1984. They later declined, but remained above the levels of the past two decades.²⁵

In more general terms, during this decade the countries of the subregion have been faced with slow growth in the developed economies of Western Europe and the United States. This has depressed the demand for Latin American exports.

During the last decade (1970-1980), foreign trade grew in real terms in Colombia, Ecuador and Peru, but slacked off in Bolivia and Venezuela. The 1980's have been more difficult. From 1980 to 1986, export levels went into free fall in Venezuela, Bolivia and Peru and declined more moderately in Ecuador, but grew by 20 percent to 25 percent in Colombia. During the same lapse, imports have declined in all the countries except Colombia, where they grew between 1980 and 1982.

²⁵ IDB, 1987 Report, 6.

2. Insecurity and the Drug Trade

Both the urban and rural areas have become more unsafe in Colombia and Peru. This situation discourages people from investing and working in rural areas, and has aroused government concern for promoting development programs. The cocaine trade has affected society and productive organizations in Bolivia, Colombia and Peru. International organizations working in the fight against drugs in Bolivia have prepared figures, in cooperation with Bolivian institutions of socioeconomic research, indicating that by 1984, some 80,000 families were working to produce coca leaf. To this can be added the labor force employed in treading the leaf, mixing other anesthetics, chemical processing, shipping, protection and other services, so that up to 100,000 families are assumed to be employed directly or indirectly by the cocaine trade.

When a broad sector of the informal economy is based on coca leaf production for processing cocaine, the countries experience major economic and social dislocations. Some of the most serious repercussions can be listed.

- a) Production patterns in the sector are altered by the abnormal use of soils.
- b) Family unity is affected by unstable migration.
- c) The trade intensifies a form of commerce with monetary implications that escape the control of proper authorities.
- d) Market networks are organized that upset the domestic markets for goods and services.
- e) Dollar-based wages soar, introducing major distortions in the wage and employment structure.
- f) The prices of other agricultural commodities begin to climb as the supply contracts.
- g) Coca leaf loses its traditional cultural value, replaced by a culture or ideology of cocaine; moral values and national identity suffer.
- h) Undesirable consumption habits begin to appear.
- i) Settlers develop unstable connections with other spheres of the economy.
- j) Drug addiction rises among the peasant population, and social breakdown intensifies.
- k) An unstable boom-town mentality develops, with its feelings of false wealth, easy money and dreams of speculation, and this discourages productivity and detracts from the concept of collective labor.
- l) Social discrimination arises among settlers, with certain groups enriched and others impoverished.
- m) A schism appears in the basic structure of land settlement.
- n) The nature and content of the relationship between the valleys and the tropics is distorted.
- o) Capital flight abounds, and smuggling and related activities multiply (a study in Bolivia estimates that unregistered imports between 1980 and 1983 may have cost US\$1.0 billion).
- p) The financial resources of other regions are displaced toward centers where coca leaf is produced for cocaine, to provide services for the migrant population.
- q) The settlers enter into a relationship of economic subordination and social alliance with cocaine money.
- r) The problems of minifundia, or smallholdings, are heightened in the tropics.
- s) Regressive income distribution is accentuated, and the quality of life deteriorates for peasants not involved in this activity.

3. The Subregional Context

In 1986, fully 28.5 percent of the subregion's total GDP consisted of foreign trade (imports plus exports). This shows that the economies of the Andean subregion are open to international trade, and consequently subject

to price swings and economic cycles in the countries that buy their products.

Intraregional trade accounted for only 4.9 percent of total registered imports in the region for 1982, and 3.8 percent for 1986. Registered imports of agricultural products totalled 2.9 percent of total imports in 1982 and 1.4 percent in 1986.

Unregistered trade of basic foodstuffs and agricultural inputs among the Andean countries is considerable and has intensified in recent years. For example, contraband leaving Venezuela is worth the equivalent of five percent of the apparent domestic demand for a group of eight products studied. Colombia absorbs around US\$100 million per year in contraband shipments of 14 major commodities. Every year, Ecuador must set aside foreign exchange to buy certain foodstuffs for which local production is insufficient to meet demand. From 10 to 15 percent of these imports have slipped out of the country across the northern and southern borders. By 1987, Peru's contraband sales to neighboring countries had outstripped the value of legal trade.²⁶ This situation stems largely from incompatibility in the policies and economic measures of the different Andean countries. Unequal exchange rates, tariffs and subsidies cause the price of a single commodity to differ heavily from one country to another.

Contraband in receiving countries imposes unfair competition on enterprises producing similar goods or substitutes. It also drains foreign exchange and introduces a type of consumer subsidy. In the country of origin, contraband earnings are translated into pressure for more imports.

In the past few years, the countries of the Andean subregion have strengthened the mechanisms of integration that were set up in earlier decades. The Cartagena Agreement stands as a framework for harmonizing economic and social policies and for making national legislation compatible in the areas of integration agreed upon by the member countries. In the beginning, the agreement gave first priority to industrial planning as a way to expand markets, but more recently, it has strengthened its programs, projects and activities in the field of production, trade, food and natural resource management. An institutional and financial framework has now been set up to support these activities.

It was in this context that the Andean countries adopted the "José Celestino Mutis" system for agriculture, food security and environmental conservation (Decision 182), whose essential tenets provided the basis for the modifications introduced into the agricultural system in the Quito Protocol. In the area of food security, this system acknowledges the need to counteract the subregion's external vulnerability. The document addresses economic relations ranging from production and foreign trade to demand and consumption of food.

²⁶JUNAC, Causas y Efectos del Contrabando de Alimentos e Insumos Agropecuarios entre los Países Miembros del Grupo Andino (Santa Cruz, 1988), 73-75.

II. THE NEED TO CHANGE THE ROLE OF AGRICULTURE IN DEVELOPMENT STRATEGIES

This chapter will interpret the conditions that have shaped the development of agriculture in the subregion, based on the descriptions and statistical analysis given in the last chapter. This will be followed by a description of the foundations for a strategy to reactivate agriculture; a strategy that will support efforts the countries have already undertaken to reactivate their economies.

A. THE ROLE OF THE AGRICULTURAL SECTOR IN DEVELOPMENT STRATEGIES: INTERPRETATION AND POTENTIAL

1. General Remarks on the Sector's Contribution and Constraints

Ever since the Andean Group was formed, the diverse characteristics of the various countries have been fully recognized. The agricultural sector of the Andean subregion as a whole, like that of its various component countries, displays wide variations in levels of development, contribution to the overall economy, share in the generation of surplus, employment, and so forth. All the Andean countries can identify a clearly visible dualism between a modern agricultural subsector, with suitable levels of technology and strong ties to the rest of the economy, and a poor peasantry encountering great difficulties in its attempts at modernization.

The agricultural sector accounts for a high percentage of the subregion's total population, GDP and foreign exchange earnings. While it is true that other sectors drive the economy of some countries, agriculture as such holds tremendous strategic and economic importance. Nor can it be viewed separately from the food industry, which is the most important segment of the industrial sector.

For the past 30 years, the agricultural sector in the majority of the countries has been generating the surplus needed to drive an industrialization process based on import substitution strategies. Nevertheless, today's crisis conditions have sparked efforts to rethink the strategies and mechanisms for forging ties among sectors. New strategies are needed for generating and transferring surplus as a basis for forming the capital required for growth both inside and outside the agricultural sector. It must be understood that, during the industrialization drive, the rural sector experienced very little investment of public capital, unfavorable terms of trade and a lower return on capital than industry and finance. All this triggered a major transfer of income into urban zones, a serious population imbalance in these urban areas, problems of security, numerous "diseconomies" of growth and environmental pollution.

It is widely accepted that the industrialization process provided acceptable rates of economic growth for over two decades. It successfully concentrated demand through the process of urban development. However, it is also recognized that this process created large rural and urban groups that had no access to the benefits of economic growth; these are commonly

viewed as informal, marginalized sectors with high levels of unemployment and poverty.

These poor social groups make up varying proportions of the population from one country to another, but for the subregion as a whole, they are the majority. This is why it would be sensible to devise policies that will mesh the generation of employment and income for these groups with reactivation of the agricultural sector.

There is a clear relationship between food and poverty. The rural and urban poor spend much of their income just to feed themselves. For this social group, food is the major wage good, and changes in food prices and supplies have a decisive impact on real income. For this reason, measures are needed over the short and medium term to strike a suitable balance between farmer prices that will encourage agricultural production, and consumer prices that will guarantee food security for the purchasers of low-cost staples.

The traditional approach for meeting this objective in the countries of the subregion has tended to be self-limiting because it is based on policies that discriminate against agriculture. This has occurred in part because the relations between agriculture and the rest of the economy were not well understood. It is also due to poor coordination between the institutions responsible for designing agricultural policies, and those that must put the policies into effect.

It is widely acknowledged that any industrial revolution must be preceded by an agricultural revolution, with substantial improvements in rural productivity. The countries of the Andean subregion have not fully complied with this prerequisite. Instead, they have driven down the relative prices of food by adopting various macroeconomic policies that forcibly extracted surplus from the agricultural sector. In the end, many farmers actually lost their productive capacity and were left with no possibilities for modernization.

It cannot be denied that the rapid economic growth of the past failed to improve income distribution. Ironically, by bringing up demand, economic growth fueled inflation, especially affecting food prices, thus actually depressing the real income of the poor, who use so much of their available income to feed themselves. Similarly, economic growth has been more beneficial for modern agriculture than for peasant producers, who are less able to generate surplus because they have little access to production factors. If any strategy to reactivate the rural sector is to have a multiplier effect on the economy, public expenditure must be redirected so as to lessen the burden of poverty in both urban and rural areas.

2. The Import Substitution Model: Achievements and Signs of Fatigue

During the past 20 or 30 years, the countries of the Andean subregion, like the rest of Latin America, launched a strong push for industrialization. The theoretical basis for this process was developed by ECLAC. In essence, it recognized that the terms of trade for primary production from Latin

American countries were deteriorating, and that the countries could counteract this trend by substituting imports. Industrialization would provide a means to accumulate capital, thus generating the savings needed for economic growth. The following phenomena have been attributed to industrialization: a) rapid economic development; b) gradual reduction of the import coefficient; c) transfer of capital and population from rural areas to urban centers; d) little improvement in living standards for the poorest 20 to 25 percent of the population; e) major development in the business sector; f) little capital reinvestment by the business class; g) transfer of earnings abroad; and h) a greater imbalance in income distribution, with major political ramifications.

The model was successful in that it brought overall growth to the economies, but it discriminated against agriculture and exports. Recent trends in the national and international economy have now brought its very legitimacy into question.

Industrialization has been promoted primarily by means of economic measures such as the following: a) tariff protection designed to replace imports with items produced locally; b) provision of financial and technical assistance for the creation and expansion of businesses; c) expansion of the infrastructure for transportation, communication and energy, mostly in urban areas; d) acquisition of foreign loans to complete the financing of economic infrastructure projects; e) promotion of direct foreign investment to establish enterprises that would substitute imports; f) special taxes on traditional exports; g) major disbursements of public resources for education, health, social security and housing for workers in urban areas; and h) expansion of markets through the Andean Pact.

The development model prescribed the following measures for the agricultural sector: a) extracting capital surplus from farmers, in the form of low prices for production, and from urban laborers, in the form of low wages; b) low levels of capital formation and little investment in technology; c) imports to keep down food costs for laborers; d) transfer of the labor force from the countryside to the city; e) withholding from agriculture the protectionist measures adopted to favor industry.¹

Protectionist measures for industry consisted of tariff policies, taxes and overvalued local currencies, all of which combined to turn the terms of trade against agriculture. Low levels of investment in research,² in education and in rural infrastructure have conspired to keep down the productivity of agricultural resources and impair the sector's ability to compete on international markets.

¹For an analysis of these components in the case of Peru, see F. Martínez, "Tributación, precios y subsidios en el agro: diagnóstico y propuestas a corto plazo," in E. Aramburu, et. al., Priorización y Desarrollo del Sector Agrario en el Perú (Lima, Peru: Friedrich Ebert Foundation, 1986).

²IICA, Reactivating Agriculture: A Strategy for Development (San Jose, Costa Rica, 1987), 153.

Import duties have acted like a tax on exports. Industrial protection policies directly raise the cost of imported inputs, such as fertilizers, machinery and other materials used by farm producers. This raises the costs of production and depresses agricultural export earnings. Protection of the industrial sector also pushes up domestic input prices, and this means that the production of agricultural goods for local use and for export becomes less profitable.

Overvalued currencies serve as a tax on agricultural exports because the producers of these goods receive less income in local currency than they would if foreign exchange were in equilibrium. Finally, it becomes more profitable simply to expatriate industrial profits when the local currency equivalent of foreign exchange earnings falls too low.

Agricultural export taxes, like differential exchange rates, have discouraged the primary sector from investing in and producing exportable goods. Instead, producers seek out other alternatives, thus further cutting total exports.

There is now a clear awareness of the reasons why policies for import substitution and industrial development discriminated against agriculture. In the first place, agricultural products were not being imported in major quantities, and thus there was no real need to substitute them. In the second place, it was easier to modernize the industrial sector, which was already more centralized and less risky.

Prevailing theories were based on the view that agriculture was backward, while industry was modern. To this should be added the greater political clout of growing, geographically concentrated urban sectors. The city population was organized into trade unions, and demand already existed for the types of industrial goods that had formerly been imported. This stood in striking contrast to the rural sector, geographically dispersed and poorly organized. Even the public agricultural sector was weak, because there was so little understanding of the effects that macroeconomic policies had on agriculture. The sector had limited power to negotiate with the public offices that allocated resources, such as the ministries of the treasury and planning. An eloquent statement of these and other conditions was the Andean Pact, with its explicit emphasis on integration of industry. The expanded subregional market was based on a liberalization program, a common external tariff, harmonization of economic policies and coordination of development plans. It also arranged to carry out joint projects for the manufacturing sector by developing industrial programs.

B. THE CRISIS OF THE 1980'S AND THE NEED FOR A NEW DEVELOPMENT STRATEGY

1. General Remarks

ECLAC describes the 1982-1986 period in the Andean countries as the half-decade of deepest economic crisis in the history of Latin America, although

clear differences emerged among countries. The figures speak for themselves:

- GDP growth fell from around five percent in the 1960's to zero or even negative figures in the 1982-1986 period.
- Investment levels in the past five years trailed behind those of the 1960's, thus jeopardizing future growth. Total gross investment declined from 24 percent of GDP to 16 percent between 1981 and 1985.
- Average inflation during the period ranged from three to seven times higher than in the 1960's and 1970's, with country-to-country variations.
- Recession and inflation, known together as stagflation, brought sharp cuts in employment and real wages. During the last five years, wages have declined by 4.5 percent annually. Meanwhile, the number of people living in poverty is on the rise, and standards of living have deteriorated.
- As the GDP tumbled, tax pressures rose as a percent of total output, without really reducing swollen budget deficits. Taxes on trade continue to provide over 20 percent of all tax revenues. These factors severely limit possibilities for reactivating the economy by means of public investment and expenditure.
- The tremendous, pressing need to service the foreign debt, coupled with deteriorating terms of trade, have placed the balance of payments on an unsteady footing. Some countries recently made significant improvements in their trade balance by tightening imports through a process of recession, rather than raising the value of exports.

These conditions have tended to sharpen social tensions. The general environment has encouraged increased guerrilla activity, drug trafficking and unregistered border trade, all of which fans insecurity and discourages investment. The possibilities for resuming the type of industrial growth achieved in the last two decades are severely hampered by: a) the high costs of generating and applying new industrial technologies, a break-even point that is shifting toward larger scales of production, and an inability to compete on the international market, given the types of protection under which the sector developed; b) the introduction of capital-intensive, labor-saving technology, which slows the demand for labor; c) contracting demand, both at home and abroad; and d) the slow pace of integration processes in the subregion. All these factors cripple efforts to address the foreign debt and the budget crisis.

The balance of payments crisis, the burden of the foreign debt and other negative economic factors have led the countries of the subregion to seek new development options that will allow them to meet the following objectives simultaneously:

- Improve the balance of payments, either boosting exports or substituting imports.
- Compete on external markets for manufactured goods and for agricultural and agroindustrial products.
- Contribute to reactivation and the generation of employment, taking advantage of linkages between economic sectors.
- Forego large-scale investments per unit of labor, and make greater use of existing facilities.
- Contribute to price stabilization by increasing the domestic food supply.

2. Efforts to adapt to a Changing Environment

The countries have attempted to weather the crisis by cutting their trade deficits and making structural adjustments. They have sought to create the conditions for sustained growth and give themselves greater flexibility for adjusting to changes in the economic environment. In order to cut the trade deficit, they have restricted imports and expanded exports. Colombia and Ecuador, for example, have successfully promoted nontraditional exports. Many countries have taken the critical step of devaluing their currencies. Structural adjustments, in turn, have been based on optimizing the distribution of public expenditures, making better use of market and price mechanisms, and offering real incentives for production and investment by the private sector, as was done in Bolivia.

The countries have had the following experiences with adjustment programs:

- In 1985, Bolivia introduced harsh measures to clamp down on the budget deficit. Taxes on foreign trade were slashed, and the allocation of productive resources was entrusted to market mechanisms.
- Colombia adopted a gradual, voluntary adjustment policy, because the country had undisbursed loans at the time the Mexican crisis broke. In 1984, a new adjustment program was introduced, under the supervision of the IMF, giving high priority to public investment in export projects, restricting imports and establishing a competitive exchange rate.³
- The first adjustment measures in Ecuador consisted of devaluation and import restrictions, which were stepped up after 1983. Interest rates rose, and public expenditures were brought under control. In 1985, top priority was placed on revising the currency exchange system,

³A. Martínez, "Colombia: Efectos de la política de ajuste en el desarrollo agropecuario, Revista de la CEPAL 33 (ECLAC, Dec., 1987), 97.

while at the same time, controls and government intervention were reduced.⁴

- Peru has preferred currency devaluations as an adjustment policy. This has successfully cut down on imports, but has failed to increase exports.⁵
- Venezuela has adjusted to the crisis by adopting a combination of measures to make most imports more expensive, and the country has expressed a clear interest in introducing a variety of subsidies to promote agriculture.

At this time, the agricultural sector is called upon to intensify its contributions toward raising the level of economic activity and employment, fighting inflation, reducing the budget deficit, improving the trade balance and reducing poverty through higher income and more equitable distribution. Whether or not the sector will be able to bring these goals closer over the short term depends basically on the relative weight of agriculture and the ways in which it now fits into the overall economy. Agriculture generates 18 percent of the total GDP of Latin America, employs 38 percent of the labor force, contributes 32 percent of total export earnings, and accounts for 41 percent of the total population. These figures speak eloquently of the importance agriculture holds today, especially as a source of employment and an earner of foreign exchange. These average figures mask the greater economic importance of agriculture in certain countries of Central America. Furthermore, these figures represent only the direct contribution that the agricultural sector makes to the economy, overlooking linkages with other sectors. This discussion will soon show that these linkages are a factor of growing importance in the role of agriculture.

Finally, it would be useful to recall some of the characteristics of the subregion's agricultural sector that are to prove particularly important in view of the restrictions and requirements of the economic programs adopted by many countries:

- Agriculture maintains a positive trade balance in the countries of the subregion. Increased agricultural production always brings improvements in the external sector of the economy, both by boosting exports and by cutting imports.
- All price stabilization policies are based on increasing the production of agricultural "wage goods," such as corn and beef, as the only lasting way to prevent prices from rising.

⁴G. Saldado, "Ecuador: Crisis y políticas de ajuste. Su efecto en la agricultura, Revista de la CEPAL 33 (ECLAC: Dec. 1987), 135.

⁵J. Iguñiz, "Perú: Agricultura, crisis y política macroeconómica," Revista de la CEPAL 33 (ECLAC: Dec., 1987), 171-172.

- Reactivation of agricultural production helps to revitalize the overall economy because of the sector's linkages with input producers and the industries that provide storage, shipping, processing and distribution, as well as the financial sectors.
- Agriculture provides a means for diversifying the economies of the subregion, especially in countries that are dependent on oil and mineral production.

III. FOUNDATIONS OF THE STRATEGY FOR REACTIVATION AND AGRICULTURAL DEVELOPMENT

As was explained in the preceding chapters, a central feature of the economies in most Andean countries is the heterogeneous nature of the agricultural production structure. The development model which has prevailed in the Andean subregion tended to heighten this structural heterogeneity by widening the economic and social gap between the different forms of social organization characterizing agricultural production activities. This gap is commonly reflected in economic and social disparities among different zones of each country.

Nonetheless, the development model based on industrialization for import substitution that was promoted in past decades ushered in an apparent boom, if measured in aggregate terms. It brought high, sustained growth rates in the production of goods and services and in average per-person income. This surface success, however, kept the countries from understanding the implications of the dualistic structure that was taking hold in the agricultural production process. It masked the effects of excessive rural flight into a few large cities, where a chaotic process of urban sprawl was gathering force.

This is why the strategy devotes so much attention to the implications of the highly disparate performance trends between commercial agriculture and campesino farming. Even these two groups are far from monolithic. The peasant economy, in particular, reveals tremendous variation in the processes of capital accumulation, reproduction, connection to markets, endowment of assets and access to services.

Due to these peculiarities of the Andean agricultural sector and to the different faces of agriculture in each country, any effort to design a strategy for agricultural reactivation and rural development needs to be undertaken primarily inside each country. It is safe to generalize by saying that in all the countries, these efforts must be built on at least two different pillars. These pillars are viewed separately for analytical purposes only. It is their interaction that sets in motion a specific set of dynamics--technical, economic and sociopolitical--and leads to improved agricultural performance and higher levels of development in the rural milieu.

The first pillar of the strategy derives from the differentiated characteristics of the agricultural production structure. It seeks to forge new relationships between agriculture and the overall economy in the country, the Andean subregion and the rest of the world. Each nation must correct the bias of macroeconomic and sectoral policies that work against agricultural activities. It must ensure that these comprehensive policies will no longer penalize small-scale producers in peasant economy.

The second pillar of the strategy is to erect new relationships between what is public and what is private. In this sense, each national effort must attempt to eliminate the institutional confusion that exists between the government and various other groups of society. The process should operate hand in hand with a drive to improve coordination between the entities responsible for designing policies, and those expected to implement these policies.

Agricultural reactivation and development of the rural sector, viewed in these terms, must necessarily arise from the individual efforts of each country. Even so, subregional integration has a key role to play in attaining these goals. A common legal framework can power national action by providing a means to translate the political desire for integration into a set of synchronized national policies and joint actions that can be performed in support of the process of reactivation and development.

This chapter will first outline the objectives of agricultural reactivation and development of the rural milieu. It will then give a more specific description of the different features of the strategy. Finally, it will return to the theme of subregional integration as one of the cornerstones of joint action.

A. OBJECTIVES OF AGRICULTURAL REACTIVATION AND DEVELOPMENT OF THE RURAL MILIEU

Agricultural reactivation and development of the rural environment in the Andean countries can be seen in terms of four basic objectives. These objectives, in turn, are useful for visualizing the type of conditions that are being anticipated for the turn of the century.

- Increase the supply of agricultural and agroindustrial goods at low unit cost, while maintaining the productive capacity of natural resources and protecting the quality of the environment.
- Increase demand and ensure an accessible food supply for groups of society that are at nutritional risk.
- Participate more effectively in the international marketplace, boosting agricultural and agroindustrial exports and substituting imports efficiently.
- Consolidate the process of developing the peasant economy, upgrading its production capacity and providing it with greater access to the benefits of development.

1. Increase the Supply of Agricultural and Agroindustrial Goods

Increases in the supply of agricultural products can be achieved even in the present-day context of economic and financial constraints in the countries. They must be based first and foremost on increasing productivity and improving post-harvest handling, marketing and distribution systems. If new technologies are introduced into the agricultural sector, with special emphasis on the campesino economy, both volume and quality of the food supply can improve. This will bring down unit costs and prices, thus increasing consumption and even opening the door to food security in the individual countries and in the subregion as a whole.

Prices will stabilize and real wages will rise if the production of foodstuffs and agricultural raw materials can be boosted and marketing costs brought down. All this will help ward off recessionary trends in the economy. Growing production volumes and falling unit prices will also

trigger development and subregional trade in food processing industries, which represent the largest portion of the industrial sector in all the countries of the subregion.

If the supply of agricultural products is to increase, the productive capacity of natural resources and the quality of the environment must be protected. This requires new, more appropriate practices for managing soils, water, forests and watersheds. The introduction of such practices will help push down production costs in the medium and long term and will prevent producer income from diminishing as time goes by.

An increase in the supply of agroindustrial goods, based on agricultural production in the nations and the subregion, will strengthen linkages between industry and agriculture and between agriculture and agroindustry. The industrial sectors in some of the countries have already developed a close association with agriculture, based on the production of inputs, tools, packaging, fertilizers and so forth. There is considerable potential to strengthen these linkages even more if the industrial sector is reoriented to produce inputs, machinery and equipment for agriculture, especially in the framework of the subregional market. Links between agriculture and rural agroindustry provide an alternative for propelling rural development in all the countries of the subregion, and for making the peasant economy more viable.

An increase in the supply of agroindustrial goods will also help raise the overall GDP, counteract recessionary pressures in the economy, create additional employment and generate more producer income, as long as the production processes and the technology used are available domestically. A further advantage of rural agroindustry is that it generates local multiplier effects and promises more balanced relationships between the peasant economy and the rest of the economy. Agroindustry also provides the opportunity to raise the added value on export goods and thus bring in more foreign exchange.

2. Increase Demand and ensure an Accessible Food Supply

Any realistic hope of achieving sustained agricultural reactivation and development of the rural milieu in the subregion calls for both quantitative and qualitative improvements in the demand for agricultural and agroindustrial goods. The goal must be to provide the kind of diet needed to maintain an active, healthy life. Food security can be achieved by guaranteeing that the entire population has access to a suitable food supply.

The demand for foods cannot increase unless prices are stable and incomes are sufficient and equitably distributed. This, in turn, depends on the capacity of the economy to generate income among those population groups that are currently living on the fringes of productive activities.

The rural sector has relatively abundant labor and land resources that are chronically underused as a result of inequalities in income distribution. This depresses the standard of living for a very large segment of the

population. It exerts aggregate effects on production and final demand that ultimately lower the GDP of the countries as a whole.

If income were distributed more equitably in the rural sector, both local and subregional markets could expand. This is especially true for food-stuffs, with their high income elasticity among low-income groups.

Both the public and private sectors hold the keys for achieving food security. Neither sector can operate efficiently, however, unless macro-economic policies are designed appropriately and enforced consistently. Effective mechanisms for institutional coordination of the two sectors are also essential.

3. Participate more effectively in the International Marketplace

In recent years, the subregion has increased its nontraditional exports by offering such products as cut flowers, vegetables, and shrimp and other seafood. These new activities have been introduced in response to changes in the structure of demand, especially in the industrialized nations. The countries have also come to understand how vulnerable they are when their export income is based on only a small number of products. The answer was to diversify traditional production and seek new export activities.

As the countries have pumped more agricultural and agroindustrial goods into the subregional and world markets, more foreign exchange has become available. Beneficial effects have been felt on employment, income and the overall economy.

If exports and foreign exchange earnings are to expand, the agricultural and agroindustrial sectors need to be more efficient, with lower production costs, better quality and a richer variety of products.

There is still considerable room for substituting agricultural imports. The subregion as a whole depends on imports of certain basic staples such as wheat, oats and barley. Most of the countries report production deficits of edible oils. Some import red meats, milk and other goods. Agroindustrial imports, for the most part, are negligible.

If the countries and the subregion could substitute today's agricultural imports, they would save on foreign exchange, with its high opportunity cost, raise the overall supply of goods and services, and generate additional employment and income. This, in turn, would help offset recessionary trends in the economy.

Import substitution becomes economically feasible when agriculture is able to produce at a lower unit cost.

4. Consolidate the Development Process of the Campesino Economy

Small-scale farmers play a key role in food production in the Andean countries. This subsector provides over 60 percent of all basic staples and a large share of certain export goods.

Despite its major contribution to development in the Andean subregion, this population segment registers the highest rates of relative and absolute poverty in all Latin America. It accounts for nearly 30 million people living below the absolute poverty line.

If economic development can strengthen the peasant economy, two important processes will obtain. First, the productive resources controlled by these people will begin to develop, thus reactivating agriculture. Second, the social inequities so common in this sector will start to diminish.

Such an objective can be attained only if specific policies are designed and implemented to encourage the campesino sector to play a more active role in employment generation, food production and generation of foreign exchange. These groups must also diversify their intersectoral links inside each country and around the subregion. The problems of food security in the countries of the subregion can indeed be solved by developing the peasant economy.

B. CENTRAL FEATURES OF NATIONAL-LEVEL STRATEGIES IN THE SUBREGIONAL CONTEXT

The introduction to this chapter offered a general description of the emphasis that will be given to the strategy. This section will go into more detail. As was stated, the work must be fundamentally of national scope, as it involves the adoption of specific policies, measures and actions, as well as public, semi-public and private programs and projects. It begins, then, with an understanding that each country is fully responsible for giving the strategy the content and form most appropriate to its own conditions.

Nevertheless, the countries of the Andean subregion do have the political desire for integration, and the highest leaders of each nation have acknowledged certain "areas of joint action" that can undergird national-level work. At the same time, each country must develop certain strategic features that, together, would comprise the common framework for joint action. The features of the strategy that have already been identified fall into eight groups, or issues, at three different levels of hierarchy. These issues come together under the broad theme of subregional integration, which, while indeed a strategic factor, is better discussed elsewhere.

Five of these strategic issues pertain to Level One. These issues focus primarily on increasing the supply of agricultural and agroindustrial goods and improving trade. Issue One addresses macroeconomic and sectoral incentives for increasing agricultural production. Issue Two focuses on development of technologies suited to the needs of the rural majorities, the ecosystems in the countries, environmental protection and the urgent need to avoid falling behind in the use of state-of-the-art technology. Issue Three would strengthen the linkages between agriculture and industry, seeking to develop multiplier effects, especially in rural zones. Issue Four addresses the need to preserve and even improve the productive capacity of resources and protect the quality of the environment. Issue Five aspires to achieve a pattern of trade that will encourage exports in a way that is consistent with today's understanding of the

comparative advantages of the countries. It would seek to open new markets which are presently protected and diversify production, at the same time efficiently substituting agricultural imports.

Level Two combines certain elements of these same strategic issues with concerns for demand and consumption of foodstuffs. This level contains two strategic issues for integration. Issue Six would strengthen the role of the peasant economy and lessen conditions of poverty and inequality, in order to make this subsector more effective in generating foreign exchange. Issue Seven is based on the importance of achieving food security for the subregion, a task which will integrate all the strategic issues discussed above. It recognizes the need to combine these issues with direct food support to groups that are nutritionally at risk.

Level Three contains the final component of the strategy, or Issue Eight, having to do with the public sector of agriculture, its role, and its relations with the private sector. This issue is very important because the successful implementation of the entire strategy depends on mechanisms used by the public sector to enrich decision-making processes with the broadest possible input. Participation is needed by all those agents that, in one way or another, are in a position to devise appropriate measures, promote them and make them work.

1. Macroeconomic and Sectoral Incentives for Agricultural Production

All farmers make personal, individual decisions. These decisions, taken in the aggregate, affect supply and the efficient use of resources. The farmers' decisions depend on factors external to each individual, such as: a) product and factor prices; b) potential demand for production; c) access to tested production technologies; d) availability of inputs embodying these technologies; and e) access to capital. Public entities of the agricultural sector focus their action primarily on the last three factors, while the first, prices and real demand, responds to macroeconomic policies and the level of economic integration achieved in the subregion.

a. Exchange rates

In the past, the countries of the subregion have tended to adopt policies based on overvalued local currencies. More recently, they have bowed to the pressure of foreign debts and adjustment programs, and they are now reversing this tactic. The real exchange rate tells the relative price of internationally marketable goods, as compared with nonmarketable goods, and therefore, depreciation of the local currency makes marketable goods and services more expensive than nonmarketable goods and services. Agriculture has a larger marketable component than the rest of the economy, and devaluation of local currencies has therefore raised the relative prices of agricultural commodities, thus making the sector more profitable.

Nevertheless, real exchange rates have not been allowed to rise everywhere. Peru and Venezuela experimented with multiple exchange rates, granting lower rates for agricultural imports and exports. However, the domestic prices of agricultural goods depend on both the

real exchange rate and international price levels. Therefore, it is extremely important for agricultural sector authorities to keep a very close eye on the real exchange rate.

b. An effective structure of protection

Agriculture is protected through policies governing exchange rates, taxes and subsidies, and most critically, trade policy. The countries of the subregion have introduced varying degrees of protection for agriculture, but many are now questioning the effectiveness of such measures. Protection has taken three different forms: greater economic protection for industry than for agriculture; protection for import substitution instead of export promotion; and inside the agricultural sector, markedly uneven degrees of protection. All these policies have exerted a negative impact on the sector by depressing economic productivity and discouraging exports. Therefore, public sector programs for agriculture must be based, first and foremost, on correcting distortions in degrees of protection among products and among sectors. This is especially true in today's environment of widespread cutbacks in expenditures and public investment.

c. Tax policy

Another essential type of macroeconomic incentive is tax policy. Many countries charge taxes on agricultural exports. This keeps production and income levels lower than they could be, often discouraging farmers from cultivating crops for which the country has comparative advantages on international markets. Such policies also harm rural income levels, skewing income distribution and dampening the potential multiplier effects of export income. The challenge is thus to develop alternative forms of taxation that will not distort prices so severely. Such an alternative should be based on the recognition that, in general, taxes on basic production factors such as land and water do not distort relative prices or resource allocation, the way product taxes do. Any review of tax policy for the sector should also be extended to include taxes on agroindustry.

d. Production and consumption subsidies

The same type of comments can be made on policies that pay subsidies on production and consumption. If these subsidies are used indiscriminately, they can distort resource allocation and prove costly for the treasury. Blanket subsidies on consumption are inadvisable, primarily because they tend to leave agriculture unprotected, especially when foods are imported, and are very costly to the national budget. Production subsidies may still have a place. However, they must be clearly justified, and the following questions need to be asked: Will policy objectives be met? How effective are alternative means of achieving the same objectives?

e. Support prices

Efforts have frequently been made to introduce price policies on a sector-by-sector basis, in the form of subsidies and support prices, without taking into account the direction of overall policies. Administered prices can take various forms, depending on what objectives are being pursued. Are they needed to induce production increases? Are they part of a comprehensive strategy of economic policy management? Such would be the case of the anti-inflation policies adopted by Peru in recent years. The purposes of support prices are to increase production, redistribute income, reduce uncertainty, or simply guide the allocation of subsidized credit. Support prices often fail to meet their objectives, for a number of reasons. The process of setting these prices is inadequate, as it is based on average production costs, whereas real costs may vary considerably from one region or production unit to another. Such prices fail to reflect real costs when input use strays from levels originally planned. Furthermore, the administration of these prices obliges the government itself to begin purchasing commodities, with a high cost to the public treasury.

The essential argument against them is that support prices stand very little chance of influencing agricultural prices, if they run counter to macroeconomic policies. Real agricultural prices depend on exchange-rate policies, trade policies and tax policies, as well as international price trends. Any attempt to counteract the effects of macroeconomic policies with the use of support prices is extremely costly for the national budget, and such measures can be sustained only for very brief periods. Price policies have limited coverage, often bypassing campesino production altogether. This is why such measures must be closely synchronized with comprehensive and sectoral incentive policies, which can happen only if the public agricultural sector improves its capacity to discuss and negotiate such issues.

2. Technology

Agriculture in the countries of the Andean subregion is practiced with many different levels of technology. These differences reflect the many types of agriculture found in the productive structure of the sector.

Growth and development strategies adopted by the countries have strongly influenced the process of technological innovation. Technology has been generated and transferred primarily for commercial agriculture, with much less going to peasant agriculture. Commercial agriculture has also had access to the information and skills needed for adopting or adapting technologies generated by national or international research centers. Furthermore, technology for crops with a short growing cycle has been in much greater demand than technology for perennial crops. This could be due to economic and social instability, and the need to seek a quick profit in agriculture.

The international research centers have had a decisive influence on the forms of technological change being developed. Much progress has been made with highly productive genetic materials that require heavy use of so-called modern inputs--non-agricultural inputs made with imported components.

For the past few decades, some of the production and productivity increases in commercial agriculture have been obtained through the massive incorporation of fertilizers and agricultural chemicals. The trend was fueled by sectoral policies and specific incentives, including subsidies on fertilizers and chemicals.

The excessive emphasis on agrochemicals has pushed the process in the direction of ecological degradation and increased the need for imports. For this reason, a number of authors underscore the tremendous potential and value of a conservation-minded modernization strategy based on appropriate land management practices, including tillage techniques and crop rotation, erosion control, management of irrigation water and surface and underground drainage, and integrated pest and disease control.¹

In recent years, international research has also been oriented toward generating genetic material for crops with a short growing cycle and resistant or tolerant to adverse environmental factors, such as drought, freezing, wind, hail, high water levels in the soil, aluminum toxicity, pest and disease attack, and the like. These materials, by their very nature, will benefit peasant agriculture. The same can be said of already existing technologies of soil microbiology, by which use of chemical fertilizers can be reduced drastically, bringing down unit production costs.

The new biotechnology reflects the latest scientific findings in biology and genetics. Present production methods, based on the heavy use of inputs, must gradually be displaced by these new methods. This will necessitate systematic training for human resources, the cost of which can be fully justified by subsequent sharp declines in the use of inputs, unit costs of production, and damage to the ecosystem.

Much remains to be done in the field of technology transfer. In the first place, many technological achievements have already emerged as research programs have been strengthened and modernized; these need to be fully exploited. In the second place, the strategies and mechanisms of technology transfer need to be improved. Technology transfer programs can be streamlined if they place greater emphasis on the use of group or mass methods. They should seek to address real producer needs for technical assistance. At the same time, transfer methods should reflect the renewed interest in technological innovations that can bring sustained agricultural growth without degrading the environment. This means that the emphasis

¹B.O. English, J.A. Maetzold, B.R. Holding and E.O. Heady, Future Agricultural Technology and Resource Conservation (Ames: Iowa State University, 1984).

will be placed on cropping practices, farming techniques, herd management, and the use of agricultural biologics and organic inputs. The teaching and learning method holds paramount importance and can provide a means for producers to participate directly in the technology development process.

The economic benefits of investing in agricultural research and extension have been demonstrated on numerous occasions. The case of Colombia is typical. Studies were made for the 1962-82 period to determine how research and technology transfer affected elasticity of production. The study found that research and transfer together produced an internal rate of return of 71 percent. Thus, the need to boost investments in research and technology is evident. This should not be the exclusive domain of the public sector, but is equally important for the private sector, whether national or international. Available resources must be used efficiently; therefore, the many varied groups engaged in these activities need to work in close coordination. The process of technology generation cannot operate in isolation from technology transfer, and both processes need to be attuned to the users of the technology and the various multiplier groups. If this is done, it will become possible to solve problems soon after they are identified, by offering better and more appropriate technology.

New technologies cannot be developed, transferred, adopted or used rationally under present systems of distributing public expenditures. Numerous institutional changes should seek to cut the cost of government intervention in commodity markets; establish taxes and other mechanisms to streamline the land market; increase private sector participation in generating technology and marketing genetic material, in coordination with the public sector; invest heavily in developing human resources through training and dissemination of information; and attach top priority to funding for technology generation and transfer.

Finally, it is important to recognize the immense value of subregional cooperation in the area of technology generation and transfer. If know-how and technology are shared, activities and efforts will not be duplicated, and it becomes possible to streamline the process of technological change and training. Joint efforts already under way in the countries of the subregion should continue and be strengthened in the future.

3. Linkages between Agriculture and Industry

Agriculture and agroindustry have always lived in a state of symbiosis. Together, they offer a wide range of opportunities for strengthening intersectoral linkages, thus helping to raise a country's added value. Nonetheless, agriculture and agroindustry are too often seen independently when policies are analyzed and formulated. This tradition tends to act as a brake on possibilities for developing integrated policies for the two sectors and fully tapping their combined potential. For example, if livestock and poultry production are expected to expand, it would be appropriate to consider the possibility of increasing the production of corn, grain sorghum and other fodder, or creating or strengthening feed concentrate industries, either locally or in the subregion.

The comparative advantages of a crop or livestock product in the field might look very different if they are assessed in terms of entire systems of production, product and input marketing and industrialization. Judgments of comparative advantage and degrees of economic protection would be much more valuable if they were applied to the full chain or system of products and then broken down at each link in the chain.

Industrial growth in the countries of the Andean area has taken the approach of agroindustry complexes that are highly dependent on imported inputs, located in large urban centers, oligopolistic in nature, and plagued with chronically underused capacity. Agroindustries in rural areas should be encouraged as an alternative for putting the linkage effects to work for the benefit of the rural community.

Agroindustries set up in rural areas can offer market security to rural producers, stabilize prices, improve the spatial distribution of the population by means of related support activities and the concentration of services, and reduce post-harvest losses. They increase added value and help cut back on rural flight into the cities. Rural agroindustry, if it is properly channeled, can contribute to the development of cottage industries and other activities or services, all linked into the chain of agricultural and agroindustry production. The subregion has already acquired experience with joint development of rural projects to provide inputs, equipment and services for agricultural and agroindustrial production, in addition to activities for marketing products and byproducts.

One of the lessons learned from the integrated rural development projects of the 1960's and 1970's was that the benefits of such an approach reach only a portion of the great mass of peasants in the subregion. Landless farmers or those who own very little land tend not to benefit from agricultural development strategies. These are the people who stand to gain the most from employment generation programs in rural areas.

More and more of the rural labor force in Latin America is now employed in off-farm activities. At present, landless peasants in Ecuador derive 67 percent of their total income from non-farming activities. Families with less than one hectare of land depend on these activities for 51 percent of their income, while families with one or two hectares of land earn 27 percent of their income off the farm. Much of this income is received as transfer payments from migrants, but a significant share also comes from non-farming activities in the rural zones themselves.

The most common off-farm activities in rural areas are trade, construction and services. In Colombia, manufacturing plays an important role, providing 33 percent of off-farm rural employment. Manufacturing is different from the other activities, because it has its own dynamics. It can strengthen links in the chain and exert multiplier effects.

Rural industrialization is difficult because industrial development tends to be based on the economies of a large population center. Suppliers naturally gravitate toward particular places to specialize in the types of tasks that local enterprises need, such as substituting inputs imported

from outside the subregion. This is an eminently urban process. It can be replicated in rural zones only if public investments are made in transportation and communication services. Producer organizations themselves should be encouraged to develop appropriate storage and marketing systems.

Most rural industry, usually agroindustry, is based on processing local resources. It avails itself of the special skills of rural dwellers, as in textiles or pottery, or it provides inputs for other rural industries, thus substituting imports. A World Bank study examines rural manufacturing in a variety of countries and concludes that four basic types of activity characterize most rural industry, regardless of the level of development of the country: a) food processing; b) textiles; c) carpentry; and d) toolmaking.

Development cannot be imposed from above. If it is to be sustained, it must be based on the skills and interests of the local population. Although much learning takes place in rural enterprises, skills continue to drain away through migration. Investments in nonformal education are very important and would provide a sound basis for expanding small businesses.

If rural areas are to develop, they need meaningful public sector support in the form of infrastructure for transportation and energy. While it might be difficult to provide direct credit to small enterprises, this type of support can be offered to large companies under the condition that they subcontract rural enterprises.

Agroindustry development, like projects to support agricultural development per se, often depends on certain preconditions, such as infrastructure and water. Thus, it is not the universal solution. Even so, there are many opportunities for agroindustry schemes to embrace campesino farmers, who can frequently produce at lower cost because they need less cash income. If they organize into marketing cooperatives, their interests will be better represented and they will keep down the costs of transactions. This will allow them to diversify markets and spread their risk. Such cooperatives can serve as tools to create economies of scale for technology transfer programs.

4. Environment and Natural Resources

The Andes mountains form a chain that links all the countries of the subregion. Many of these countries also share the agroclimatic zones of the Andean Amazon.

Each country has occupied this land in its own way, although similar factors underlie their different production approaches, and they have adopted comparable economic development models. They have tended to make the governments responsible for ensuring that the use of these areas obeys certain socioeconomic or geopolitical criteria. They have all experienced campesino migrations away from Andean highland ecosystems which are no longer capable of responding to new patterns of food consumption, and all

have enjoyed a boom in traditional agroexports based on the plantation system.

As occupation of the humid tropics advanced, environmental degradation and the destruction of natural resources followed close behind. This was due to several factors. First, economic goals were not compatible with social needs. Second, the countries of the subregion adopted economic policies based on stepped-up plundering of natural resources.

The production systems traditionally practiced by nomadic groups proved incompatible with the ecosystems of the tropical and subtropical wet forests common in the areas newly opened to production. The outcome was deforestation, destruction of the biomass, soil erosion, destruction of highland watersheds and diversion of river channels.

In many cases, the governments themselves have directly promoted settlement in these areas by building roads and introducing agricultural production projects to solve socioeconomic problems. Economic policies to encourage agricultural production through price and market rewards for forest exploitation proved harmful to the environmental balance. Producers overextended the use capacity of the land and subjected the forests to selective cutting, highly destructive of the biomass.

In short, the natural resources in the Amazon are being destroyed by forestry practices based on selective cutting, agricultural production techniques transplanted from the Andean highlands, and disregard for the productive capacity of tropical soils. The complexity of wet tropical ecosystems has not been properly understood, and this is why appropriate technologies are not available for sustained agricultural and forest production in these regions.

It is important not to overlook fish species when discussing the production capacity of natural resources and the quality of the environment. The Atlantic and Pacific coastal regions of the Andean countries have a tremendous capacity for producing seafood. The Amazon rivers, if properly fished and preserved, also have enough production potential to make a meaningful contribution to the protein supply in the subregion. Natural lakes hold enormous potential for rational production of fish species, as do artificial lakes dammed for electricity or irrigation projects. All this productive potential needs to be exploited rationally in order to increase the food supply and the foreign exchange earnings of the subregion, but with a philosophy of sustainable production to preserve the quality of the environment.

The destruction of natural resources is all too often irreversible. It diminishes the potential for agriculture, forestry and fishing in the Andean countries and, over the medium term, poses a serious threat to food security. This is one reason why the environment and natural resource conservation arouse such concern today in both public and private circles in the countries of the subregion.

Environmental problems and their implications came to the forefront internationally in the 1970's. Only recently has the environment begun to attract attention in the countries of the Third World, especially when development plans and programs are designed and formulated for tropical areas or fragile lands.

Today's awareness of the threat to the environment demands both national and international attention to the problems caused by improper use of natural resources in the Amazon and the Andean highlands. All policies for expanding the agricultural frontier must be carefully assessed to gauge their environmental impact. Solutions then need to be put forth that will make better use of productive capacity and conserve natural resources. It is extremely important to support the generation and exchange of experiences and the transfer of appropriate technology for the humid tropics and to restore and rehabilitate natural resources. Finally, it is necessary to develop environmental education programs, both nationally and subregionally, that will help the general public, as well as politicians, to understand the urgency of the issue.

5. Trade and Integration

Policies to develop the agricultural sector should take into account the objectives for foreign trade of agricultural and agroindustrial products.

In the past, nearly all the Andean countries adopted macroeconomic policies that jeopardized agriculture. Policies such as overvalued currencies and relatively low import duties caused agricultural exports to stagnate or even decline, while steadily expanding overseas food purchases.

These policies were going into effect at a time when the world market for basic agricultural commodities was out of kilter. The industrialized nations had glutted the market by paying heavy subsidies for the production and export of grains, dairy products, edible oils and meat. Technological development caused productivity to soar, thus depressing international prices for agricultural commodities. Agriculture in developing countries suffered the consequences.

Another feature of the recent international environment has been the greater tendency of developed countries to adopt protectionist measures such as import duties.

Subsidies and agricultural protectionism in the countries of the northern hemisphere have dampened prices, distorted agricultural and food markets and warped trade flows. The developing countries have lost ground in their agricultural trade balance and in efforts to achieve food self-sufficiency.

Today, however, the developed countries have acquired the political will to remove distortions on the agricultural market. They are clearly interested in bringing the GATT negotiations to a successful conclusion. The essential objective of the Uruguay Round on agriculture is to slash import barriers and agricultural subsidies and to minimize the adverse effects of health protection measures on international trade.

Two of the countries of the Andean Group, Peru and Colombia, are now sitting on GATT. The other three are negotiating entry. It would therefore be useful for them to strike certain common positions so they can act in concert, increasing their bargaining power in the Uruguay Round discussions.

The GATT agricultural negotiations are divided into three groups: tropical products, agricultural commodities and natural resources. The latter includes forest and fish products.

In the negotiating group on tropical products, the Andean countries, exporters of coffee, cacao and bananas, are interested in dismantling protectionism in developed countries. This concern focuses on non-tariff barriers, such as health restrictions, and exceptions built into the generalized systems of preferences.

It would be useful to outline the positions that the different groups of countries in the Uruguay Round hold on the subject of tropical products. The United States proposes that barriers and subsidies be phased out over a ten-year period. The EEC proposes a gradual framework for eliminating barriers in exchange for reciprocity. The ASEAN countries are asking for total liberalization, neither gradual nor bound by reciprocity, elimination of domestic taxes on consumption and fully transparent health regulations.

A topic of special concern in the tropical products group is the reduction of trade barriers on processed products. The prospects for success are good because these products have greater elasticities of demand and generally higher tariffs.

The Andean countries take a different stance in the group on agricultural commodities, as they are presently importers of such products as grains, dairy products, edible oils and meat. They believe that agricultural subsidies in industrialized countries amount to unfair competition with agricultural production in the countries of the southern hemisphere.

The other groups of countries hold diverse positions in discussions of agricultural commodities in the Uruguay Round. The so-called "Cairns Group" of exporting countries would like to see trade based on true comparative advantages. These countries encourage trade and propose full elimination of barriers and subsidies. Arrayed against them are food importing countries, concerned that their interests will not be taken into account.

The integrationist strategy of the last decade devoted little attention to the agricultural sector. This was initially corrected in July 1983, with the approval of Decision 182 on Agriculture, Food Security and Environmental Conservation. More recently, the Quito Protocol assigned the agricultural sector an important role in reactivating the economy of the subregion.

The modified Cartagena Agreement, which went into effect on May 25, 1988, sets broader, more flexible objectives for integration. It calls on the agricultural sector to play a new, stronger role in the future of integration and places top priority on meeting the food needs of the population and achieving food security. It also addresses agricultural and agroindustrial development and improved standards of living for rural populations. It recognizes that agricultural and agroindustrial trade can be stepped up if the countries begin specializing to produce complementary goods. Finally, it looks toward import substitution for the subregion, along with diversification and expansion of exports.

The modified Cartagena Agreement outlines an agenda of agricultural development programs by which to meet its objectives. It sets forth a series of measures to establish subregional and national systems of food security, conduct joint programs for technological development in agriculture and agroindustry, including technology transfer, promote agricultural and agroindustrial trade inside the subregion, carry out joint programs and activities for agricultural and agroindustrial trade with third countries, develop common regulations and programs for animal health and plant protection, and conduct joint cooperation activities to meet the special needs of depressed areas, most of which are rural. The Agreement also describes industrial integration programs as a tool for speeding the process of integration. Most agricultural production could fall into this category, insofar as it constitutes raw material for agroindustry.

The process of integration should be seen as a means to facilitate solidarity and cooperation inside the subregion. Its purpose is to augment negotiating power and improve marketing methods, so as to facilitate access to export markets.

The Andean countries, instead of competing for third markets, should work together to improve their market positions as a group. Cooperation across the subregion can also make exports more competitive by streamlining production and marketing. For example, more competitive prices can be offered if the subregion coordinates marketing and shipment of exports.

This is why the subregional integration process is so important and holds such great promise. Integration means an expanded market and, through joint actions by the countries, will help reactivate the economies and develop agriculture. This, indeed, is the conceptual foundation for the existence of a "strategic plan of joint action." The first step is to examine each country's agricultural development strategy to pick out those features that are shared by them all and thus lend themselves to joint action.

The foreign trade objectives of the Andean strategy should also address trade with the other countries of Latin America. Today, in the 1980's, Latin America has renegotiated the rules of trade integration. LAFTA was dismantled, and the new ALADI arose through the Montevideo Treaty in 1980.

ALADI has been renegotiating the comprehensive tariff preferences system, which includes agricultural goods. The chief mechanisms have been the

single commodity agreements, which are bilateral, and the Regional Tariff Preference, which is multilateral.

A third mechanism, presently being negotiated in ALADI, is the Regional Program for Trade Recovery and Expansion. This program promises major trade opportunities for high-volume sales among ALADI member countries. Of particular interest to the Andean countries is the opening of markets in Argentina, Brazil and Mexico.

Any agricultural development strategy must define what role Andean agriculture will play in trade with the rest of Latin America. Objectives and plans of action are needed for developing the potential of agricultural and agroindustrial exports from the Andean subregion to the other ALADI countries.

The strategy's objectives for foreign trade are to expand agricultural and agroindustry exports and to substitute agricultural imports efficiently, based on comparative advantages in the subregion.

Exports can be expanded by increasing external sales of agricultural and agroindustrial products, diversifying exports and diversifying target markets. External sales should be boosted by expanding traditional exports, such as coffee and bananas, along with nontraditional exports, such as cut flowers, shrimp, vegetables and agroindustrial products.

Agricultural and agroindustrial exports need to be diversified to counteract the price and income instability so typical of primary commodities. Two ways to diversify exports are to add new offerings, and to process traditional and nontraditional items before selling them. Market diversification is another way to respond to the vulnerability of export income.

Exports can be increased to the extent that agriculture and agroindustry produce at competitive cost and offer products of greater quality and variety. This presupposes that governments will correct domestic policies that interfere with agricultural development and exports. Particular attention should be paid to currency support policies and industrial overprotection.

The countries must negotiate vigorously in international forums, if they hope to expand and diversify their agricultural and agroindustry exports. The Andean countries stand to gain from the changes in the international environment that are presently under discussion in the General Agreement on Tariffs and Trade (GATT) and from ALADI's negotiations on preferences.

The second basic objective of foreign trade, to substitute agricultural imports efficiently, is far from being met. The Andean subregion as a whole is dependent on imports for such grains as wheat, oats and barley. Furthermore, most of the countries have production deficits in edible oils, meats and dairy products.

Most of the Andean countries are in difficult budgetary straits. This means that import substitution needs to be approached in terms of

comparative costs. It is not efficient to substitute imports if domestic production absorbs more resources than buying the products on the international market. Thus, import substitution needs to be based on an exchange-rate policy free of any distortions that might encourage food imports. Domestic price policy must avoid rewarding consumers who purchase imported foods. Finally, a moderate, consistent tariff protection policy is essential. Under these conditions, it becomes possible to launch a selective process of import substitution that will save on foreign exchange, expand the overall food supply, generate employment, and help counteract recessionary trends in the economy. Whenever it is impossible for domestic producers to substitute certain products under reasonably competitive conditions, the Latin American market should be searched for a reliable supply alternative. A worthwhile option might be to enter into long-term trade agreements with countries in the Southern Area that have product surpluses.

6. The Campesino Economy

The rural population in the Andean subregion is highly differentiated and heterogeneous. In the most basic terms, it is composed of two types of agriculture. The first, often known as "commercial" agriculture, produces for the domestic market and often for export. The second is the traditional sector, which produces for on-farm consumption and the local market.

Many different land tenure systems can be found in the traditional sector, where some producers own their own land, and some work for wages. Landowners in this group fall into three different categories: a) smallholders whose resources are so limited that they must supplement their production with wage labor in order to survive; b) smallholders whose resources provide enough to meet their basic needs; and c) small-scale producers able to generate a surplus.

Agricultural development strategies in the Andean subregion have tended to view producers as a monolithic group, without taking into account the differences in their processes of capitalization and reproduction, market linkages, endowment of assets and access to services. The resulting strategies have been biased in favor of large and medium-sized producers.

The strategy to reactivate agriculture and develop the rural milieu should give the campesino sector a greater voice in decision-making processes. This cannot be done without taking into account the differences between commercial agriculture and peasant farming.

The strategy should also respect the many different types of small-scale producers. Some campesino groups have enough productive potential to launch a successful drive into commercial agriculture. Another group, made up of peasant wage-earners untouched by agrarian reform programs, must be targeted by special employment programs.

The strategy must: a) be sufficiently flexible to accommodate the socio-cultural peculiarities of diverse social groups, as well as the different soil and climate conditions in areas where peasant farmers have settled; b)

call on the organized community to participate in the different stages of decision-making; and c) decentralize the process by which rural development activities are planned and carried out.

For all these reasons, campesino agriculture requires specific pricing systems and a drive for organization that will enable it to enter gradually into the commercial production process. This, in turn, will bring it the benefits of new technology. The sector will be able to raise its income levels and, as a result, expand domestic demand. In this sense, peasant agriculture can become a key to reactivating both local and national economies.

7. Food Supplements for Groups at Nutritional Risk

The previous sections focused on the central goals of agricultural reactivation and development of the rural milieu. They described the need to: a) adopt macroeconomic and sectoral incentives for agricultural production; b) propel technology development for food production; c) strengthen the linkages between agriculture and industry; d) protect the environment and the productive capacity of natural resources; e) design incentives for expanding exports and efficiently substituting food exports; and f) strengthen the peasant economy.

All these steps are required if the population is to improve its access to food. These efforts must be further supplemented with direct support for families living in extreme poverty. Such groups are nutritionally at risk, and need help to acquire even the most basic staples.

In an environment of economic adjustment, when much of the population is suffering from loss of income, it is important to design and assess programs that focus on specific consumption subsidies. These programs have been tested in some countries of the subregion, with different types of emphasis. They are difficult to implement, as certain indirect beneficiaries always gain, while others who should benefit remain outside the program. Nevertheless, such policies cause considerably less drain on the budget than the generalized consumer subsidies still in use in several countries of the subregion.

Changes in eating habits can also play an important role. They can prompt substantial increases in the demand for certain agricultural commodities produced by the peasant economy, thus providing a degree of market security to these producers, while at the same time reducing the demand for imported goods. Such a campaign to redirect eating habits would facilitate efficient import substitution, while also improving child and infant nutrition and adult health.

8. The Public Agricultural Sector

All the strategic issues discussed above reveal that the agricultural sector in the Andean subregion, despite its current difficulties, holds the key by which the countries can overcome today's crisis. Moreover, given the potential magnitude of linkages that agriculture holds with the rest of

the economy and the rest of the world, the sector can even become a powerful engine of economic growth, social well-being and economic integration.

Agriculture in some countries continues to be hobbled, unable to live up to its full potential. The constraints on the sector are not merely technical or economic. The problem is much more complex, and is multinational in scope. The subregion set up sociopolitical and institutional structures based on the development model that held sway at the time, and the conditioning role played by these structures has not been well understood.

The constraints are even more obvious today, when recent events have sparked sudden, major cutbacks in public resources for investment and operations. Public-sector outlays now go primarily to meet payroll expenses. The economic crisis and the policies it engendered have set off a downward spiral in the standards of living of public-sector workers, who feel less motivated with each passing day. Other developments tend to heighten this problem. Agricultural activities have become increasingly complex, as intersectoral relations multiply. The private sector and different types of producer organizations have become very strong. Decentralized institutions are proliferating in the fields of technology, marketing, and the like.

Given the crisis conditions in the Andean subregion, the civil servants of tomorrow will need flexible instruments and procedures that will allow them, and even encourage them, to offer creative, timely responses to unanticipated problems. If solutions to today's problems are to be found, attitudes must change and the political will must exist to recognize and value the input of those who are directly affected. Social technology is needed for coordinating the many key participants so they can contribute to the task of analysis and guidance, thus ensuring that policies are viable and that desired results are forthcoming.

When the development model is reviewed, it is particularly important to realign the relationships between individuals and institutions in the public sector, as well as their relationships with various non-public groups. The make-up of the public agricultural sector needs to be reexamined: how it is oriented, how it is organized and how it operates. What is the role of the sector when policy is made and actions, programs and projects are carried out for agricultural reactivation and development of the rural milieu?

It will then become possible to define a frame of reference in which the performance of individuals and institutions, both public and private, can be modernized and transformed. The tasks of analysis, guidance and decision-making can become more decentralized, less bureaucratic and more participatory. This is the only way to bring about gradual democratization and more efficient, effective processes for formulating, implementing and upgrading policies for each agricultural, social and economic setting. This should be understood as an essential condition for creating an environment in which higher levels of agricultural production and well-being can be achieved.

Recent discussions on the role of the government have unfortunately suffered from a widespread tendency to concentrate exclusively on the "size of the state." This narrows the discussion to its most simplistic dimension, with arguments stacking up on both sides--a larger vs. a smaller role for the government. It is an approach that draws an ideological veil over the real issues and polarizes different points of view, until the discussion bogs down in a time-worn dispute between the "bureaucratic and entrepreneurial public sector" and the "entrepreneurial private sector." What is traditionally known as "statism" is arrayed against what is more recently being called "privatization." It becomes impossible to deal with the subject intelligently or delve into the essence of the problem, thus finding viable alternatives by which to introduce a new dynamic into sociopolitical organization, for addressing and eventually overcoming today's crisis.

While this is a real problem, no one can deny that the reach of the government has been growing in all the countries of the subregion. Even in fields where the state's role was already firmly established, its presence has expanded. The issue of government size needs to be addressed, but it would be more effective and is more urgent to concentrate the discussion on individuals and institutions inside the government: how their relationships should be structured, and how they should relate to the various groups of civil society. In this context, the discussion should examine what "type of state" is appropriate to meet today's needs.

This suggests that the central focus of institutional change is not so much the use of new techniques for analysis and information processing, much less the adoption of new organizational charts or the creation of new departments. Instead, institutional change should always be approached as just one facet of a much more fundamental shift toward a new way of defining what is public and what is private, a new way to orchestrate the two, and a new mode of action for public officials, private leaders and advisors.

Thus, the pivot of any discussion of transformation or reform and modernization of the public sector must be this question: Is the state effective? This goes beyond mere technical or economic efficiency, extending to true sociopolitical effectiveness. The public sector should be capable of mobilizing efforts and resources, both public and private, to act swiftly and in concert when formulating, implementing and revising the policies, actions, programs and projects needed for agricultural reactivation and the development of the rural milieu.

The first step in making institutional change is to understand the structural heterogeneity so typical of the productive process and of agricultural trade. This heterogeneity has important implications for the distribution of surplus, leading to conflicts of interests among the different forces of society and between these forces and the state.

This situation has grown more complex as the economic and financial crisis has evolved, realigning different forces so that productive sectors,

especially agriculture, take a back seat to the economic and financial sectors. A clear sign of this is that decisions affecting agriculture are frequently made by these other groups, especially those related to finance, with no consideration of repercussions on agricultural performance. The result is a wave of conflicts among public institutions, with those that control economic and financial decisions (ministries of the economy, the treasury, finance, central banks and the like) at odds with those of the agricultural sector.

It is also important to understand that the crisis, when coupled with problems caused by foreign indebtedness in the countries of the Andean subregion, has sharpened international conflicts. Various forces have been realigned, and the industrialized countries have taken new measures that are affecting the possibilities for agricultural reactivation and development of the rural areas in the Andean subregion.

It is essential to begin by recognizing that the conflicts described above cannot be overcome unless the work of civil servants, be they analysts, advisers, or decision-makers, is viewed in a new light. The role of analysis and guidance needs to be redefined so that individual endeavors continue to take place even as new relations develop, and the many public and private players can begin to maintain an open dialogue. The conditions will thus evolve under which new relations can exist and the foundations can be put in place for real democratization of the tasks of guiding the process of agricultural reactivation and development of the rural milieu.

Dialogue needs to be understood in a new way. It is a cornerstone for effectively defining and implementing policies, programs and projects. Social interaction should provide a means to use dialogue for identifying conflicts and negotiating agreement on policies and policy instruments. An essential precondition of dialogue is faithfulness in meeting commitments and, when pertinent, renewing or altering these commitments as social learning is garnered during the implementation of measures, and as real conditions begin to change in response.

In many countries, the public sector plays a powerful role in providing agriculture with such services as port operations, shipping, marketing and credit. Consequently, the government is able to influence production costs and farmer profitability. If the agricultural sector is to be more competitive, services must be supplied at competitive costs. For example, it would be of no use to maximize production efficiency if the off-farm processes were very costly. This challenge of making government action more efficient assumes huge proportions in the face of present budgetary constraints and the abrupt drop in public investment, resulting from the economic crisis. Certain key lines of action can be pursued. Opportunities can be offered to the private sector, in a few concentrated areas of strategic importance, or where there is no transparent market for services. Managerial systems can be modernized in state enterprises, and staff can receive training. The coordination between the public and private sectors can be improved. Finally, producer organizations can begin to provide services.

In short, improving the effectiveness of the public sector of agriculture must be part of a broader process of institutional reforms geared toward redefining the role of the state and its relationship with society. The following steps are particularly important: a) expanding the base of democratic support by giving greater voice to representatives of the great mass of producers, of all different types; b) doing away with the concept of the overtly representative government, in favor of a truly participatory state, thus restoring power and participation to general society; c) guiding the state away from a centralist role toward more decentralized forms of operation, administration and provision of services; d) making the government more efficient in providing the services demanded by society; e) altering over-arching, exclusivist expectations of the government by beginning to redefine the role of the state and initiate administrative restructuring; thus, the government's new tasks would be to guide and regulate, and to spark dialogue; and f) making a political decision in favor of subregional integration and giving greater support to mechanisms of integration, including active participation by the private sector.

These are some of the general standards that should be used to guide an in-depth process of review and institutional reform of the public sector for agriculture. Such a process is absolutely essential if agriculture is to be reactivated and the rural areas are to develop. Action can be taken to address any of the present spheres of state action in agriculture, depending on decisions made in each country. There is also considerable room for multinational action, such as training programs, exchange of experiences, and the like, in support of national efforts to modernize the state and its institutions.

C. SUBREGIONAL INTEGRATION AND THE POTENTIAL FOR JOINT ACTION IN SUPPORT OF NATIONAL STRATEGIES

Agriculture will be reactivated primarily through efforts by each individual country. Every nation must reallocate its investment resources. It must adopt and enforce comprehensive policies that will not jeopardize agriculture. It must make appropriate decisions on income redistribution and strengthening the public agricultural sector, as well as modernizing government structures. Even so, subregional integration has a key role to play in propelling national-level action. It can provide a common legal framework to facilitate a full range of actions that will support and mesh with the programs of each country.

Subregional integration of agriculture among Andean countries will allow for: 1) economies of scale, reducing the unit costs of joint investments in fertilizer, machinery and pesticide production, communication services, irrigation systems, and so forth; 2) a wider sphere of influence for agriculture, agroindustry, industry and other economic activities; 3) increased bargaining power, whether on the foreign debt and the movement of productive factors, or for obtaining market access in a world where the great economic blocks grow stronger every day.

In the past, integration strategies essentially overlooked the agricultural sector. This has been partially corrected by the Quito Protocol, but it is

important now to design new mechanisms by which the advantages of joint action can be put to work in many areas that are key for agricultural and agroindustrial development (such as domestic and foreign marketing, technological development, investment, or large regional projects). Finally, if agriculture is ever to join the integration process, macroeconomic and sectoral policies must be better coordinated and more compatible.

Integration needs to be viewed in a broader sense. The subregion must form a solid front to obtain greater bargaining power and improve marketing techniques, in order to improve its access to export markets. Instead of competing for third markets, the countries should work together to strengthen their position and participation on these markets. By cooperating with one another, they can streamline production and marketing to make their exports more competitive. For example, if the subregion coordinates marketing and shipping of export products, it will be able to lower its sales price and compete more successfully.

All this reveals the importance and potential of joint actions to support agricultural reactivation and development of the rural milieu. This is the conceptual foundation for the very existence of a "plan of joint action." This is also why it is so important to identify those features of agricultural development strategies that are common to the different countries, and therefore lend themselves to joint programs among nations.

IV. PROGRAMS OF JOINT ACTION

As has already been stated, the countries of the Andean subregion have the political will to integrate, and certain areas of joint action can already be identified. These areas will provide a framework for cooperative endeavors that will power each country's actions to reactivate agriculture and develop the rural milieu.

Although the different countries are individually responsible for implementing the strategy, the actions are being introduced here for the Andean subregion as a whole. The eight central features of the strategy, presented in the last chapter, and the three levels into which they were classified, provide a common foundation for the areas of joint action discussed below.

The four objectives set forth at the beginning of the last chapter give an idea of what the Andean subregion could look like by the end of the century. The central features of the strategy will guide the countries in adopting policies that can make that scenario a reality. These eight features, in turn, lead to areas of joint action. The areas are described in operational terms as programs of joint action for the subregion.

The areas of joint action arose through a process of identifying shared problems that could be tackled in a joint fashion. The content of each one is based on specific relevant features of the joint strategy. They are not intended to cover all possible angles of national agricultural development strategies.

Many of the areas of joint action contain elements pertinent to more than one feature of the strategy, and they give a more concrete role to the institutional organization present in the different countries of the subregion. They also take into account the present orientation of international funding.

Eight areas of joint action have been selected, based on these considerations and on the consultation process in the five countries. These eight areas will be described in the form of programs for joint action, as follows:

- A. Institutional Strengthening to improve Policies for Agriculture
- B. Generation and Transfer of Agricultural Technology
- C. Agroindustrial Development in Rural Areas
- D. The Environment and Natural Resources
- E. Agricultural Trade and Integration
- F. Plant Protection and Animal Health
- G. Andean Program for Campesino Development
- H. Direct Food Assistance

Background information has been compiled for each of these programs. A principal objective has been set for each one, and a general discussion is

included of how this objective will be met. Each program description is filled out with a series of subprograms, projects or components addressing the essential issues, as well as the action approaches to be used.

It should be stressed that the programs presented in this chapter are not all in the same stage of development. They are merely a framework onto which new subprograms or projects can be added. For example, the Program on the Environment and Natural Resources addresses certain issues that were already identified in the strategy, such as forest and fishery development, and which will require technical and financial support from other specialized agencies.

This program structure is flexible. After it has been approved, and certain specific facets of the programs have emerged for action, it can serve as a basis on which to identify new projects for specific funding.

The programs presented here are intended to mesh with the programs and projects presently conducted by IICA and JUNAC in the subregion, and will not compete with them.

Below is a matrix showing how each of the central features of the strategy fits in with the programs for joint action.

MATRIX DIAGRAM SHOWING HOW EACH CENTRAL FEATURE OF THE STRATEGY IS ADDRESSED BY THE PROGRAMS OF JOINT ACTION

CENTRAL FEATURES OF THE STRATEGY PROGRAMS OF JOINT ACTION	1. MACROECONOMIC AND SECTORAL INCENTIVES FOR AGRICULTURAL PRODUCTION	2. TECHNOLOGY	3. LINKAGES BETWEEN AGRICULTURE AND INDUSTRY	4. ENVIRONMENT AND NATURAL RESOURCES	5. TRADE AND INTEGRATION	6. CAMPESINO ECONOMY	7. FOOD SUPPLEMENTS FOR GROUPS AT NUTRITIONAL RISK	8. PUBLIC AGRICULTURAL SECTOR
A. INSTITUTIONAL STRENGTHENING TO IMPROVE POLICIES FOR AGRICULTURE	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>		<input type="radio"/>
B. GENERATION AND TRANSFER OF AGRICULTURAL TECHNOLOGY		<input type="radio"/>				<input type="radio"/>		<input type="radio"/>
C. AGROINDUSTRIAL DEVELOPMENT IN RURAL AREAS		<input type="radio"/>	<input type="radio"/>			<input type="radio"/>		<input type="radio"/>
D. THE ENVIRONMENT AND NATURAL RESOURCES		<input type="radio"/>				<input type="radio"/>		<input type="radio"/>
E. AGRICULTURAL TRADE AND INTEGRATION	<input type="radio"/>				<input type="radio"/>			<input type="radio"/>
F. PLANT PROTECTION AND ANIMAL HEALTH		<input type="radio"/>			<input type="radio"/>			<input type="radio"/>
G. ANDEAN PROGRAM FOR CAMPESINO DEVELOPMENT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>		<input type="radio"/>
H. DIRECT FOOD ASSISTANCE						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A. PROGRAM OF INSTITUTIONAL STRENGTHENING TO IMPROVE POLICIES FOR AGRICULTURE

1. Background

The process of agricultural reactivation and development of the rural milieu in the Andean subregion is inseparable from the effort being made in the countries and the subregion to correct the bias of macroeconomic policies that are detrimental to agriculture. It is a process intended to counteract the institutional disarray that exists between the state and the different groups of society that are involved in agriculture. It will also improve coordination between the entities responsible for designing policies for agriculture, and those that must carry them out.

All this can happen if the countries and the subregion improve their capabilities for analysis, guidance and decision-making. They need to be open to dialogue if they wish to design effective policies, investment programs and projects, implement them, and revise them whenever necessary. Such an effort is the key to meeting objectives of agricultural reactivation and development of the rural milieu.

The particular crisis conditions and the different types of constraints in the present state of the economy in the Andean subregion pose three kinds of special demands. First, the different countries must have policies that are minimally compatible, and agricultural policies per se must be closely linked to policies of other sectors, as well as macroeconomic policies, with their powerful impact on agriculture. This, in turn, means that the institutions in each country must work in harmony. When policies are designed, and the actions and projects for carrying out these policies are implemented, public organizations must interact closely with each other, both in the sector and among sectors, and must also work closely with different private groups. In the third place, in addition to this institutional synchronization, it is essential to ensure that policy design is consistent with the implementation of actions and projects.

The Andean subregion has recent experience with economic adjustment programs and their impact on conditions in the agricultural and rural sector. This experience suggests the need to evaluate more closely some of the specific issues that are essential for deciding how to orient policies of reactivation, and the resulting actions and projects.

Very few investment resources are available for agricultural reactivation and development of the rural milieu. It is thus more urgent than ever to improve the formulation and management of policy and to coordinate the two processes. This will make institutional actions more effective and increase their impact.

Some of the countries of the Andean Group have acquired important experience in recent months. With support from JUNAC, they launched the System for Information and Decision-Making (SITOD). The System has helped improve the processes of formulating and managing policies for agricultural development and food security. In one country, the SITOD is visibly

improving coordination among the different institutions involved in the process of policy design and implementation.

Support from IICA and other organizations has made it possible for some countries to take major steps in designing and implementing instruments for policy follow-up and evaluation and tools for assessing the medium- and long-term impact of development alternatives. These efforts could be dovetailed with the SITOD, thus providing a basis for a full range of instruments useful in improving analytical and advisory capabilities. New mechanisms of guidance, based on dialogue and discussion, are essential for making the decisions that will reactivate and develop Andean agriculture.

The subregion has also made successful efforts with continuing education, receiving support from both the public and private sectors. Such projects could be consolidated and reinforced as part of the process of institutional strengthening in analysis and advisory services for effective decision-making.

2. Objective

The central objective of this program is to help national and subregional institutions develop self-sustained capabilities for analysis, advisory services and decision-making. These institutions need to be capable of maintaining open dialogue to facilitate the design, implementation and timely revision of policies, investment programs and specific projects that will contribute to reactivating and developing agriculture in the Andean countries.

The program will pursue this objective by helping national institutions to design, adapt and implement mechanisms and instruments for use in the agricultural sector of the individual countries, and the subregion as a whole. This will be done by harmonizing the different countries macro-economic and sectoral policies that affect agriculture, thus strengthening the subregional integration process.

3. Components

The program consists of interrelated components that must be implemented in a coordinated fashion if the objective is to be attained. Each component can be seen as a different approach to the same body of issues.

Component 1. Identification of factors that either hinder or facilitate the reactivation and development of agriculture in the Andes, through research and documentation of experiences

This component will identify a range of specific positive and negative factors that affect the reactivation of agriculture and the development of the rural milieu. These are the factors that either hinder or facilitate the endeavor to make agriculture play a more effective role in national development strategies and in the process of Andean integration. The factors are: a) the relationships between agriculture and the rest of the economy or the rest of the world; b) coordination between the public sector

and the private sectors, for both commercial and peasant farmers; and ci) coordination of the process whereby policies, investment programs and projects are designed and implemented.

Component 2. Direct technical support for designing, implementing and consolidating mechanisms and instruments for policy formulation and implementation

Technical support will be provided for the design, implementation and consolidation of specific mechanisms and instruments to facilitate the formulation, implementation and timely, negotiated revision of policies, investment programs and projects for reactivating and developing agriculture in the context of Andean integration. This support will be based on research findings and documented experiences, and on the particular needs derived from national policies.

Component 3. Continuing education to develop special skills needed in the countries

The purpose of this component will be to give national institutions access to the social technology needed for planning and negotiated management of policies for agriculture. Staff members will be trained to design and operate the mechanisms and instruments mentioned above, and will learn about other issues relevant to reactivating agriculture and developing the rural milieu, always in a context of maximizing compatibility across the subregion. This effort will be oriented toward defining and implementing strategies and working approaches by which the institutions themselves can develop the skills they need. Work will be based on the principles of "learning-by-doing" and "transfer-by-doing," with teaching and learning processes focused on synchronizing individual endeavors with group work.

National institutions or centers that provide training in policy planning and management will also be strengthened. If these national efforts are upgraded, it will become possible to change the orientation of public officials, private leaders and their advisors, raising their sense of commitment to efforts for agricultural reactivation and development of the rural milieu. The next step will be to establish an Andean Network of Training Centers, by which each of the Andean countries can share its particular know-how.

Component 4. Horizontal cooperation for dissemination and exchange of experiences

This component will promote horizontal cooperation among specialists and institutions in the different countries. Such cooperation is essential if the objectives of reactivation and agricultural integration are to be met in the Andean subregion, and will provide a means to disseminate and share the experiences acquired by each individual country. Actions will include technical assistance, seminars and fellowships, under the tutelage of specialists from the national institutions themselves. These actions and

the personal contact among specialists in the subregion will plant the seeds of a network for the dissemination and exchange of experiences.

Work under the four components of this program will focus on strengthening national and subregional capabilities for analysis, advisory services and decision-making, as well as dialogue and negotiation. Emphasis will be placed on the following major issues:

- Harmonization of policies for agriculture among the countries of the Andean subregion.
- The adoption of consistent macroeconomic and inter-sectoral policies that will affect the future performance of the agricultural sector.
- Selective policies to promote the role of the peasant economy and to develop depressed rural zones.
- Public and private investment in agriculture.
- Decentralization of processes for formulating and implementing policies, programs and projects.
- Participation of the private sector, including both commercial producers and peasant farmers, in the processes of formulating and implementing policies, programs and projects.

B. PROGRAM FOR GENERATION AND TRANSFER OF AGRICULTURAL TECHNOLOGY

1. Background

The countries of the Andean subregion possess a broad spectrum of resources and opportunities for agricultural development. The subregion is strategically positioned to help solve food problems in Latin America and beyond. The Andean countries share very similar conditions in terms of their agroecology, socioeconomic level, degree of technology development, and above all, problems in providing the agricultural sector with the support it needs in order to play its proper role in activating the economy. Reactivation of the agricultural sector needs to be based on a sound process of technological innovation, rooted in a healthy system of generation and transfer of agricultural technology.

Although the countries have already taken major strides, they have not made enough progress to meet present-day needs for technological development. The challenge of the 1990's will be to improve the agricultural sector by adopting technology appropriate for the types of resources available, based on the needs of the private sector, and capable of meeting massive demands for food. All this requires integrated efforts to overcome present constraints.

Cooperative activities have been taking place for several years in the field of agriculture in general, and more specifically, in technology

generation and transfer. Most noteworthy has been the Andean Technological Development Program (PADT-Rural). Important experiences have also been garnered with the Cooperative Agricultural Research Program for the Andean Subregion (PROCIANDINO), which operates a system of reciprocal cooperation among the national agricultural research institutes. The Program was launched in 1986, with direct support from the IDB, IICA and the international centers.

The first stage of PROCIANDINO has successfully promoted technical cooperation and has contributed to the process of integration among the countries. Both in theory and in action, it has demonstrated the will for reciprocal cooperation. The task for the 1990's will be to strengthen the mechanisms of cooperation and to consolidate PROCIANDINO.

It is clear that the institutional environment in the subregion possesses the quantitative and qualitative conditions for strengthening and intensifying cooperation. The countries have implicit research and technology transfer systems, although their organizations have achieved varying degrees of development.

The processes of research and transfer to improve the agricultural sector also require complementary strategies and activities that lend themselves to reciprocal cooperation. This suggests fields of action such as: a) improving organization, upgrading management and administration, and promoting institutional development of research and agricultural technology transfer; b) strengthening seed production as an input for agriculture and an excellent vehicle for technology transfer and adoption; and c) graduate training, in view of the high costs involved, including migration and turnover of specialized professionals. Certain technological innovations, by their very nature, also require special strategies. If they are adopted jointly by the various countries, and if the public and private sectors are properly coordinated, these innovations can bring very positive results. Subprograms under some of these headings could be formulated in a joint fashion.

The program strategy will target two basic issues: research and transfer, and technological innovation.

The area of research and transfer includes activities for formulating and developing research projects to address products and concerns of high priority for the subregion. It will also cover technology exchange among the countries, strategy assessment and design, and mechanisms for strengthening technology transfer to the countries. This component will seek to bring about improvements in technical support by upgrading the planning, organization and management of research and transfer.

In the area of technological innovation, the program will promote initiatives for producing inputs and technology that will transform agricultural production and which, by their nature, require special strategies. Emphasis will be placed on seed production, agricultural biotechnology, and physical and mechanical innovations, all of which demand combined the efforts of agriculture and industry and of the public and private sectors,

both nationally and internationally. Efforts will also be made to generate financial resources to support research and technology transfer activities in the countries.

In summary, the countries of the subregion share many problems, although they have acquired experience in finding integrated solutions to them. Many of these problems continue to merit more of the type of reciprocal cooperation for which the countries have expressed a political will.

2. Objectives

The central objective is to strengthen the development of science and technology for agriculture in the subregion. This would provide a basis for the process of technological innovation to reactivate agriculture by means of high-priority actions of shared interest, using strategies and mechanisms for reciprocal cooperation.

The specific objective is to upgrade the quality of agricultural research and technology transfer in the subregion, expanding capacity and improving efficiency. This will be done through concrete activities based on cooperation among the diverse components of national research and transfer systems. Special emphasis will be placed on national institutions, producer organizations, international centers and international cooperation agencies, all in pursuit of improved production and productivity.

3. Subprograms

PROCIANDINO (COOPERATIVE PROGRAM FOR AGRICULTURAL RESEARCH AND TECHNOLOGY TRANSFER) - PHASE TWO¹

Objective

To upgrade the quality of agricultural research and technology transfer in the subregion, enlarging capacity and improving efficiency. This will be done through active cooperation among national institutions, with the participation of producer organizations and international centers, for the overall purpose of improving agricultural production and productivity.

Component 1: General technical support

- Work in coordination to draw up plans, set priorities and organize research and technology transfer.
- Administration of research and transfer.

¹This a preliminary description of the subprogram. The PROCIANDINO Commission of Directors has asked for a study, which will be completed during the second half of 1989. At that time, the different components of Phase Two will be detailed, along with the organization and operating approach.

- Strategies and mechanisms for follow-up and evaluation of research and technology transfer.
- Mechanisms for bringing the institutions into contact with external sources of financial resources for research and transfer.

Component 2: Technology transfer

- Studies of agricultural development in the subregion and the socio-economic and technological environment for technology transfer, including factors that prevent producers from adopting technology.
- Systems, models and strategies for transfer in the subregion, tailored to users, products and production zones.
- Institutional structures and methods for improving transfer mechanisms and for coordination among those responsible for transfer in the public and private sectors.
- Training to bring extension agents up to date on advanced technology per se, and on methods of rural communication.

Component 3: Agricultural research

- Support for formulating and developing research projects targeting products that hold high priority for the subregion, with special emphasis on those that are important for nutrition, for agroindustry, or for exploiting comparative advantages in export markets.
- Support in formulating and developing research projects on campesino production of native products, both traditional and nontraditional.
- On-farm strategies and research methods using the systems approach, based on producer participation and practices that, by conserving land and water resources, will not degrade the environment.
- Systems, mechanisms and methods to modernize research. Special emphasis will be placed on the use of modern agricultural biotechnology.
- Strategies and mechanisms by which the countries can generate, obtain and use new developments and products of agricultural biotechnology and other leading-edge technologies, and promote further research.
- Support in designing and implementing policies to address the effects of new technologies, and assistance in redesigning institutional models and strategies to ensure safety and protection based on these technologies.

Work will be done with the following commodities: legumes; edible oils; cereals; perennial tropical vegetable or fruit crops grown in association;

and roots and tubers. Livestock species will include double-purpose cattle (beef and milk), camelids, horses and sheep.

The subprogram will also provide support for modernizing research with new methods and techniques of agricultural biotechnology. Attention will focus on plant tissue culture for micropropagation; genetic manipulation to increase resistance to adverse climate and soil conditions; soil microbiology; and seed technology. In the area of animal production, the subprogram will promote institutional improvement for mastering the techniques of embryology and genetic engineering.

SUBPROGRAM ON ORGANIZATION, MANAGEMENT AND INSTITUTIONAL DEVELOPMENT OF RESEARCH AND TECHNOLOGY TRANSFER

Technological development in the subregion, a very complex process, will soon face major challenges as it strives to achieve sustained production of foods and raw materials for agroindustry without degrading the environment. Traditional institutional strategies for establishing the types and amount of technology will need to be reviewed and adapted to changing environmental conditions. New alternatives must be developed for designing research policies; planning, organizing and conducting research; and delivering results to technology users. The central purpose of this subprogram is to contribute to the institutional development of the subregion's systems for research and transfer, incorporating strategies and mechanisms that will modernize planning, management, organization and administration of these activities to make the system more effective and efficient.

Objectives

- To improve capabilities for managing, planning, organizing and administering research and technology transfer institutions.
- To support the development of programs for training the people responsible for organization and management, and to help create an organized critical mass that can enrich this work with new approaches, concepts and methods.
- To promote exchange and cooperation among the countries of the subregion, or with countries in other subregions with which joint actions might be desirable and necessary.
- To work with national research and transfer systems, as well as international centers and the international donor community, encouraging them to discuss activities for planning, management, organization and administration of the process of technological innovation through technology generation and transfer, and financial resources in support of these activities.

4. Participating Institutions

The subprogram will target national institutions, both public and private, that belong to the national research and technology transfer systems of the countries. Also involved will be IICA, CIAT, CIP, CAF, IDRC, IDB, the World Bank, FAO, EEC, JUNAC, CIMMYT and UNDP. International commodity networks or professional associations will have a role to play, as will other agencies or countries interested in donating to the subprogram or cooperating with it.

C. PROGRAM FOR AGROINDUSTRIAL DEVELOPMENT IN RURAL AREAS

1. Background

Growth in the cities has created the need to move greater volumes of production from the countryside to urban centers and to improve cross-town distribution. At the same time, it is now important to strengthen peasant economies and small-farmer organizations, which have been weakened as other economic groups have gathered strength. All this requires a very effective strategy and organization, as well as investments that will allow agricultural products to reach consumers quickly and in good condition.

Rural agroindustry can be promoted on the premise that the introduction of agroindustry into rural areas provides market security to farm producers. It stabilizes prices and improves the spatial distribution of the population by creating associated activities and concentrating services. It helps cut post-harvest losses, raises added value and counteracts rural flight to the cities. Rural agroindustry, if properly oriented, can contribute to the development of handicraft activities, industrial activities and services, all revolving around agricultural and agroindustrial production. The subregion already has experience with the joint development of rural activities that provide inputs, equipment and services for agricultural production and agroindustry, in addition to activities for marketing products and byproducts.

2. Objective

The central objective of this program is to support the transformation and marketing of agricultural production in rural areas, through cottage industry and agroindustry.

In order to meet this objective, the program will support institutional strengthening, create technical and market information systems, generate projects and provide training and advisory assistance.

Component 1. Institutional strengthening for promotion and development of rural agroindustry

- Create an institutional network in the subregion to facilitate exchange and integration, coordinated with the hemisphere-wide cooperation network (RETADAR).

- Hold high-level seminars on agroindustrial and market policies suited to the rural milieu.
- Support institutional integration in the countries, encouraging them to create national coordinating boards.
- Identify and study rural agroindustry projects that are economically and financially viable and can meet the needs of the urban and rural population.
- Equip national metalworking industries to produce machinery adapted to the needs of rural agroindustry.
- Create an agroindustry extension service in the countries to provide advisory services and technical support for the design, implementation and follow-up of agroindustrial projects.
- Support the creation and strengthening of suitable peasant organizations.
- Publicize the availability of national and subregional mechanisms and sources of funding for agroindustrial development.

Component 2. Research

- Establish a registry of institutions associated with rural agroindustry, and study the working mechanisms used in each one.
- Develop a portfolio of rural agroindustry projects, both completed and on-going, and collect documentation on each one.
- Prepare a profile of rural agroindustry, using appropriate methods, and conduct a study of the informal economy as a supplier of food-stuffs.
- Set up an interdisciplinary team of researchers to carry out the general studies described above and to provide support for the countries.
- Reinforce national structures for research in the field of food technology.
- Coordinate study and research programs for application to agroindustry.

Component 3. Training

- Assist national training institutions in opening courses tailored to the problems of rural agroindustry.

- Hold short courses on administration and management of small agroindustrial concerns.
- Open a graduate program for the subregion on the subject of rural agroindustry.

Component 4. Information exchange

- Launch a consultation service with a data bank, covering technical matters as well as commercial issues.
- Create, publish and disseminate materials of interest to rural agroindustry and accessible to both peasant farmers and professionals.
- Transfer the results of research and studies, whether performed in the subregion or internationally, to national institutions, both public and private.

D. PROGRAM ON THE ENVIRONMENT AND NATURAL RESOURCES

1. Background

All five countries have similar difficulties with erosion and environmental degradation. Common problems have been identified throughout the subregion, in both the Andean highlands and the Amazon jungle. The countries are experiencing the deterioration of public domain lands due to poor use of forests, fishing resources, fuelwood, natural pastures and irrigation water. The subregion's environment is also threatened by the production and processing of crops for the drug trade.

The resources in the Andean highlands are jeopardized by inappropriate soil, pasture and forest management. This mismanagement, in turn, can be attributed to excessive fragmentation of land, changes in eating habits, constantly shifting economic policy and a chronic shortage of public investment. In tropical zones, natural resources are being destroyed by selective cutting, agricultural production based on techniques transplanted from the Andean highlands, transformation of ecosystems for cultivating export crops on plantations, and the adoption of settlement programs that overestimate the production capacity of tropical soils. In short, the countries display a chronic failure to understand the complexity of humid tropical ecosystems, and this is why there is so little knowledge or use of technology appropriate for sustained agricultural and forest production in these natural environments.

The countries of the Cartagena Agreement, concerned about these problems, joined forces with Brazil and Guyana in signing the Amazon Cooperation Treaty in 1988. The purpose of this treaty was for the countries to combine efforts for harmonious development of the Amazon jungle, each in its own territory. The countries have also recognized the importance of environmental conservation in the framework of subregional integration processes. Decision 182 of the Andean System, known as "José Celestino

Mutis," directly tackles agriculture, food security and environmental conservation, describing a full range of instruments that the member countries can use for conserving natural resources such as soil, forests, water, watersheds, coastal zones and biological resources.

2. Objectives

A primary objective is to institutionalize national and subregional mechanisms by which the countries can proceed jointly to analyze and respond to environmental problems. Special attention will focus on the damage done by policies for expanding productive land and for using natural resources inappropriately. The program will then help generate common regulations and policies for protecting the environment.

An additional objective is to design technical and economic proposals for subregional agreements that aim to: substitute crops cultivated for the drug trade; protect and develop watersheds; and make joint investments in reforestation and agricultural and forest production.

3. Subprograms

SUBPROGRAM OF INSTITUTIONAL COORDINATION FOR THE ENVIRONMENT AND NATURAL RESOURCES IN THE SUBREGION

The environmental problems caused by misuse of productive natural resources need to be evaluated and discussed for the countries as a group. It is first necessary to coordinate actions taken in the different countries by both governmental and non-governmental institutions specialized in this field, and make sure their work is compatible. An analysis needs to be conducted of the countries' experiences with such matters as: human settlements in these areas; use of production technologies for the tropical humid forest; restoration and use of degraded soils; rehabilitation of terraces; and watershed management.

The most important tasks of this subprogram will be to:

- Conduct on-going comparative studies of policies for expanding production area, and their impact on the environmental balance.
- Trace causal relationships linking the extensive, predatory use of natural resources to economic policies affecting agricultural development and to the capability of public institutions to protect the environment.
- Prepare and publicize an inventory of successful examples of proper management and use of natural resources in the tropical, subtropical and Andean highland ecosystems.
- Evaluate how the plundering of natural resources has altered the way of life and the social organization of ethnic groups in the Amazon region. Policies can then be designed whereby productive use of land

in the Amazon will not jeopardize the social and economic needs of these groups.

- Redefine the role that federal government institutions play in designing regional development policies and in formulating strategies for productive occupation of the Amazon region.
- Analyze the different countries' laws on expansion of production area, exploitation of natural resources, and measures for conserving the environment, and make them compatible with one another.

SUBPROGRAM ON ENVIRONMENTAL EDUCATION AND ON MAINTAINING THE PRODUCTIVE CAPACITY OF NATURAL RESOURCES

Background

A number of studies conducted in recent years reveal the major causes of environmental degradation in the subregion, particularly emphasizing soil and water. These studies have failed to offer specific proposals on how to make more appropriate decisions for good environmental management. Nor have they been circulated among the public, where they could have engendered positive attitudes toward the rational use of resources.

The Special Environmental Commission for the Amazon was recently set up by the Third Meeting of Foreign Ministers of the Treaty for Cooperation in the Amazon. The ministers' meeting, which took place in Quito from March 6 to 8 1989, tasked this Commission with establishing joint policies and strategies on environmental management, promoting environmental impact studies, drawing up joint programs, securing cooperation from international organizations, harmonizing national legislation, and exchanging information on national programs for environmental protection in the Amazon jungle.

Objectives

The central objectives are to:

- Encourage broad groups from among the urban and rural populations of the subregion to get involved in improving environmental conditions. This will be done by spreading messages, information and specific proposals through the mass media and by introducing formal teaching activities in the schools.
- Upgrade public institutions in the Andean countries, enabling them to practice environmental management in the Amazon jungle and the Andean highlands, and to improve the use and management of public lands and natural resources.

The subprogram will meet these objectives by conducting studies, disseminating findings, preparing proposals and providing technical assistance. It will also hold coordinating meetings for public and private entities responsible for environmental management and natural resource conservation.

Component 1. Exchange of experiences with the use, management and conservation of natural resources and with protection of environmental quality

- Publicize studies on the destruction of the tropical Amazon jungle and Andean highland zones, in order to gauge the damage already done, identify major causes and propose solutions.
- Disseminate case studies on successful management of the tropical Amazon jungle and hillside management in the Andean highlands.
- Distribute compilations of non-destructive agricultural technologies for the Amazon zone and for Andean hillside farming.
- Disseminate an inventory of forestry techniques that will protect the environment in the Amazon jungle and the Andean highlands.
- Hold meetings of national entities responsible for protecting the environment of the Amazon, in order to discuss common methods of attracting international cooperation for protecting the Amazon jungle.
- Hold meetings of national institutions responsible for environmental management in the Andean highlands, to compare successful experiences with watershed management, hillside use, and reforestation.
- Hold meetings of associations and entities that represent indigenous groups in the Amazon region, to evaluate how the plundering of resources affects their way of life, and to propose conservation policies that will protect their social structure while meeting the development needs of the countries.
- Hold meetings of campesino farmer groups to evaluate economic incentives for agroforestry in the Andean subregion.

Component 2. Institutional strengthening

This subprogram will upgrade the capabilities of public sector institutions for designing incentive policies that will encourage appropriate, non-destructive use of forests, fuelwood, fishing resources, natural pastures and irrigation water.

Component 3. Education for leaders and authorities

Leaders, politicians and government authorities will be invited to meetings to receive information and demonstrations on the economic and social costs that present and future generations will have to pay as a result of the mismanagement of resources. Meetings with representatives of the member countries will provide an opportunity to present and discuss proposals for both joint action and country-level action. Occasional meetings will be held for follow-up and evaluation of measures adopted.

Component 4. Education for different population groups

Material will be produced and distributed to inform the public about environmental problems and the damages suffered by both urban and rural populations when resources are misused (trash dumps, destruction of highways and settlements, silting of reservoirs, salinization of soil, water pollution, desertification caused by overcutting, depleted sources of fuelwood, etc.). The material will also discuss ways in which resources can be used properly to prevent such problems from occurring.

These materials will be produced and distributed for publication, including articles for the print media, radio programs, and video productions for use in movie theaters and schools. Training seminars will be held for population groups, unions, businesses, professional associations, government workers, non-governmental organizations and teachers, in each country and for the subregion as a whole.

SUBPROGRAM TO PROMOTE INVESTMENT PROJECTS FOR THE ENVIRONMENT AND NATURAL RESOURCES

Some of the ecosystems in the Andean subregion cross national borders, and many of these hold productive potential. The purpose of this subprogram is to help the countries identify, evaluate and design binational and sub-regional investment projects to substitute crops grown for the drug trade and make rational, integrated and sustained use of the natural resources in these shared areas. The subprogram will also seek international technical and financial cooperation for these purposes and publish scientific information and business hints for implementing the projects. It might also disseminate information on mechanisms and sources of national and subregional financing available for such projects.

As its major activities, this subprogram will:

- Conduct joint studies of alternative methods for protecting the Amazon environment. Common mechanisms will be sought for attracting international cooperation to protect and preserve the flora and fauna in these ecosystems.
- Foster joint development and dissemination of agricultural and forest technology for making rational use of the Andean Amazon.
- Elicit the participation of producer organizations in assessing economic incentives for agroforestry activities in the Andean sub-region.
- Design mechanisms, both national and international, for economic compensation to stabilize and raise price levels for products that offer an alternative to coca leaf and other crops used in the drug trade. Productive off-farm activities might also provide useful alternatives. The following steps should be taken when designing these mechanisms:

- a. Study the linkages and multiplier effects of coca leaf production and marketing. Part of the income stays in producing zones, heavily influencing the local economy, consumption habits, savings and investment patterns. It is very important to understand these effects in order to anticipate possible consequences of any successful eradication program, and to comprehend the types of local linkages that are generated when major volumes of resources are injected into depressed rural regions.
- b. Study the relative profitability of coca leaf production. Any economic proposal for eradicating this crop must be based on a profitability study comparing coca leaf to possible alternatives. Estimates should not be limited to farm profits only, but must also take into account the local factor markets (labor, land, chemicals, credit) in producing regions.

E. PROGRAM FOR AGRICULTURAL TRADE AND INTEGRATION

The purpose of this program is to promote trade around the subregion, in the framework of the Quito Protocol. It would also improve the bargaining power of national governments so they could open new external markets and develop specific subregion-wide export subsectors. The program would seek to improve national food supply and marketing systems in the rural and urban areas of the countries and promote export diversification.

SUBPROGRAM ON INTRA-SUBREGIONAL TRADE

Background

One of the basic objectives of the Andean Group is to establish an expanded market by combining the national markets of all five member countries. A broadened market would permit the free circulation of merchandise and would be protected from imports into the subregion.

This objective has proven elusive because so little progress has been made in forging two of its essential instruments: removal of tariffs and trade restrictions among the member countries, and the establishment of a common external tariff. Agriculture and agroindustry have been hard hit by this paralysis in the process of integration, because no coordination whatsoever has been achieved among national policies that affect relative prices. As a result of this inability to harmonize the rules, quantitative controls of every description have been introduced. The volume of inter-Andean trade has been at a standstill or has even dropped. Meanwhile, illegal trade has flourished, crippling national policies on production, pricing and supply. As prices become more and more distorted, it proves impossible to allocate resources effectively, either in individual countries or around the subregion.

Objective

The objective of this subprogram is to harmonize policies gradually, remove restrictions on subregional trade, and establish a common external tariff for the full range of agricultural and agroindustrial goods produced or consumed in the subregion. The Quito Protocol sets a specific deadline for the temporary list of administered trade: December 31, 1997. This could be set as the absolute deadline for meeting the subprogram's objective, although if all the governments offer political backing, the goal can be fully met in only three years.

Components

The work must begin with an objective analysis of the different national markets and of policies that affect relative prices. This, in turn, will provide a basis for harmonizing policies, establishing common tariffs and removing trade barriers inside the subregion. Such an analysis can divide products into groups or families which can substitute one another, whose markets are complementary, or which have a factor-product relationship. Such families are particularly easy to identify for agricultural and agroindustrial products. Examples are:

- Edible oils and fats (includes soybeans, African palm, other oilseeds, oils and margarines).
- Feed concentrates for animals (includes fishmeal, oilcake, grain sorghum, yellow corn, chickens and eggs).
- Grains, legumes and derivatives (includes rice, wheat, barley and beans).
- Meats and fish, fresh or processed.
- Dairy products.
- Fruits, fresh and processed; juices and nonalcoholic beverages.
- Roots and tubers.
- Vegetables, fresh and processed.
- Coffee, tea, cocoa, sugar and confectionery.
- Tobacco and cigarettes.
- Barley and beer.
- Leather.
- Wood.
- Natural and spun fibers.

These groupings are given only as examples, and could be redefined for any number of practical reasons. Each one is an agroindustrial subsystem that can serve as a unit of analysis or for designing integration policies. Subsectoral integration programs could then be prepared and implemented under each product family, as a mechanism for integrating agricultural and agroindustrial markets in the Andean Group.

Each subsectoral program should identify factors likely to either hamper or facilitate integration. It should conduct a systematic, comparative review of national policies, and take a look at the status of domestic markets and the international environment for the products involved. It should also identify instruments or parameters (such as prices, tariffs, subsidies and restrictions) that need to be readjusted in order to integrate the subsector for all the Andean countries. Finally, each subsectoral program should include an agenda, with timetables for meeting each particular goal.

SUBPROGRAM TO UPGRADE INSTITUTIONAL CAPABILITIES FOR INTERNATIONAL TRADE NEGOTIATIONS

Background

Purposeful negotiations in international forums are essential if the countries are to expand and diversify agricultural and agroindustrial exports. The Andean countries have a special interest in seeing the international environment undergo the types of changes currently in negotiation through the Uruguay Round of GATT. If the developed countries do away with protectionism, new markets will open for Third-World exports, particularly favoring the countries of Latin America and the Andean subregion.

The Cartagena Agreement, as amended by the Quito Protocol, attaches tremendous importance to economic and social cooperation by the member countries. It states that the Commission of the Cartagena Agreement will adopt programs to guide the member countries when they take a joint stance in negotiations with third countries and groups of countries. It will also coordinate participation by the member countries in forums and specialized organizations focusing on the economy and international trade.

The strategy for reactivating agriculture in the various countries and in the overall subregion is based on defending markets for traditional exports, diversifying exports and increasing their added value, and rationalizing imports from outside the subregion.

The member countries of the Cartagena Agreement have achieved active, coordinated participation in the Latin American Integration Association (ALADI) and the Latin American Economic System (SELA). At the international level, some of the member countries are active in multilateral negotiations through UNCTAD and GATT. In all these forums, the topic of agricultural and agroindustrial trade is being targeted for debate, proposals and action.

Two of the countries of the Andean Group (Peru and Colombia) are presently members of GATT; the other three are negotiating entry. If they form a common front, the Andean countries will be able to act together and increase their bargaining power in the Uruguay Round.

The negotiations on tariff preferences currently taking place in ALADI will provide access to markets in Argentina, Brazil and Mexico for agricultural and agroindustrial products from the Andean Group.

The member countries of the Cartagena Agreement will be able to participate more actively and effectively in these and other negotiations if they improve their public management skills.

Objective

To help the Andean countries develop management skills in institutions of the public sector, to strengthen their role in international trade negotiations.

Component 1. Negotiating market openings for agricultural and agroindustrial goods in the Latin American Integration Association (ALADI)

- Conduct a study of market opportunities for agricultural and agroindustrial products so that trade preferences can be negotiated in the ALADI Program for Trade Recovery and Expansion (PREC).
- Disseminate the results and recommendations of these studies in meetings with government representatives of the Andean countries. These meetings could be hosted jointly by JUNAC and IICA.

Component 2. Negotiations in the agricultural commodities group, the tropical products group and the natural resources group of the Uruguay Round of GATT

- Conduct a study of developed-country protectionism for tropical products, marine products, forest products and agricultural commodities of interest to the Andean countries, and prospects for the GATT negotiations.
- Develop joint criteria and common positions for international negotiations on basic commodities, agricultural goods and agroindustrial products.
- Offer technical assistance for developing mechanisms of on-going coordination to link public and private institutions of the countries to international organizations (IICA, JUNAC, SELA and the ALADI Secretariat).

SUBPROGRAM FOR IMPROVING DOMESTIC MARKETING SYSTEMS IN THE COUNTRIES**Background**

The food supply and domestic market for agricultural products in all the Andean countries face serious obstacles. The crops of thousands of widely scattered small-scale producers need to be assembled and prepared for market, a task which is very difficult. As the population swells and urban concentration gathers force, the demand for food and for marketing services grows unrelentingly.

Domestic marketing practices are inefficient and very costly, due to misguided policies, underdeveloped physical infrastructure, and primitive mechanisms for rural trade. The picture is further complicated by heavy internal migration and undesirable trends in the eating habits of urban populations.

The countries have not clearly defined the role that the government and the private sector should play in agricultural trade. In the case of food products, this uncertainty often places producers and marketers in conflict with government institutions and pits the different cabinet ministries involved with food or nutrition against public enterprises or against local or state governments. Public commodity-trading enterprises are constantly being created, modified or eliminated. The prices of food products are variously controlled or freed. Jargon abounds, often used deceitfully to facilitate abuse of authority and corruption. Such is the case of price controls. The same practice can be clearly seen when emotionally charged words like "monopoly" or "speculation" are flung at legitimate activities such as accumulating reserve stocks, capital replacement, or storage services.

Macroeconomic policies often engender unfair competition from imports and contraband. This distorts the entire agricultural pricing system, hurting both farmers and consumers. In some countries, support prices are introduced as a form of compensation, distorting the pricing system even further.

Rural areas suffer from a notorious shortage of collection centers and facilities for product grading and primary processing before the goods are shipped to retail centers. Storage infrastructure is in short supply, and storage methods are often inappropriate. Transportation costs in rural areas are very high. Harvest, post-harvest and packing techniques are primitive. Farmers are only beginning to organize themselves to purchase inputs, obtain services and negotiate or sell their products, and the business skills of these incipient groups are very limited. Products and varieties do not meet the needs of the market, agroindustry, or exporters.

Urban areas are also plagued with problems. The infrastructure for wholesale and retail markets is very backward, as are food preservation techniques. Population shifts have produced urban sprawl, pushing up the costs of urban transportation of foodstuffs. Rural migrants tend to have their own eating habits and generally purchase very small quantities, and

this too increases the costs of retailing. Merchants in low-income areas sell products which leave little profit margin, but which nevertheless are very costly for the consumers. Because of this pattern, and because the retailers themselves are not well educated, merchandising techniques are rarely used to move the goods. Losses pile up, and food products are often sold in questionable condition.

Present food distribution structures do not correctly convey the market information needed to reorient agricultural production in accordance with urban needs and the demands of external markets. There is little incentive to invest in the agricultural sector, in agroindustry or in providing market services, either for domestic food distribution or for export.

Informal trade has proliferated in some cities. Street vendors are now selling food everywhere, with alarming implications for employment, health and nutrition.

Such trade mechanisms increase risks to consumers, who buy food products that are not required to meet the usual standards of quality, quantity and safety.

Because the terrain in the Andean countries is rugged, transportation of foods proves difficult and costly. This affects both the public sector, which must invest heavily in building and maintaining roads, and private shippers, who must travel along nearly impassable, dangerous roadways.

All these factors stand in the way of subregional integration because they make it so difficult to conduct legal intra-subregional trade. Instead, they have tended to encourage cross-border smuggling of foods.

Many consumers prefer indigenous, traditional foods. However, marketing techniques have not been developed to facilitate access to these goods, encourage consumers to purchase them, or boost demand.

Both the public and private sectors of the Andean countries have made many attempts to improve marketing systems. Each country has its share of success stories. This is why an Andean program for technical cooperation in the supply and trade of agricultural goods could be of such benefit to the subregion.

Objective

The central objective is to help the countries improve their food supply and marketing systems in both rural and urban areas. The subprogram would promote reciprocal technical cooperation between public and private institutions engaged in these activities.

In order to meet this objective, the subprogram will support national institutions in defining the role that public and private sectors must play in the food supply and food markets. It will help design, analyze and implement macroeconomic policies. Furthermore, it will assist in developing the infrastructure and services needed to improve efficiency and

reduce costs of marketing, and in organizing farmers to run marketing services themselves.

Component 1. Identification and analysis of experiences with government-run market activities and private sector services

The study of past experiences will serve as a basis for training and direct technical assistance in formulating policies that will encourage private sector participation, and in identifying and carrying out activities in which a government role is essential. Support will be provided for organizing farmers to participate in purchasing inputs and in negotiating and selling their products.

Component 2. Design, analysis and implementation of trade policies, by means of direct advisory services and training

The subprogram will provide training and technical assistance in formulating marketing and price policies, based on studies of the experiences of other countries.

Component 3. Development of marketing infrastructure

The subprogram will assist marketing institutions in planning infrastructure for the trade of agricultural products at the local, state and national levels, especially in the design, organization and operation of rural collection centers, storage facilities and wholesale markets.

Component 4. Development of services to make marketing more effective and less costly

The subprogram will analyze experiences with supplying foodstuffs to disadvantaged populations in both urban and rural areas, and will disseminate the resulting information among member countries. It will design or adapt technologies for reducing post-harvest losses. Health codes and quality standards for food products will be improved and brought up to date. Initial information will be compiled on the subregion's supply of engineering services, equipment and tools for use in collection centers, storage centers and markets, and the findings will be disseminated to the countries. A subregion-wide data bank will be designed and implemented on technological innovations for assembling, warehousing, shipping, packaging and distributing food products. Educational campaigns will be designed to target merchants as well as consumers, and assistance will be provided in carrying them out.

SUBPROGRAM ON EXPORT DIVERSIFICATION: FRUITS AND VEGETABLES

Background

The Andean subregion has comparative advantages for expanding and diversifying its agricultural and agroindustrial exports and for substituting imports of certain agricultural commodities. In order to exploit these advantages, the countries must select and introduce varieties more widely

accepted in the marketplace, adopt and improve technology for producing them and readying them for export, and diversify target markets for these exports.

Improved external sales should derive from two sources. First, traditional exports (such as coffee and bananas) must be expanded. Second, growth is needed in nontraditional exports such as flowers, shrimp, tropical fruits, vegetables and agroindustrial products.

Export diversification in agriculture and agroindustry should help offset the effects of price and income instability among primary producers of traditional exports. While adding new export lines, diversification must also seek to export more highly processed goods, both traditional and nontraditional. Market diversification is another goal for reducing the income vulnerability that stems from dependence on only one or two markets.

The sector must become more productive and yield higher quality products if agriculture and agroindustry are to be competitive internationally. This means that modern production technologies and post-harvest processing techniques should be introduced. Macroeconomic policies that distort and jeopardize agricultural economies also need to be corrected, beginning with overvalued currencies and excessive industrial protection.

Objective

To increase the production and export of fruits and vegetables in the member countries, supporting or supplementing national public and private sector efforts, to encourage the sharing of experiences, and to promote technical and commercial relations among producers and exporters in the subregion.

In order to attain this objective, the countries will need to become more skilled in designing, analyzing and implementing policies. The focus will be on policies that will allow them to exploit their competitive advantages for producing and exporting and to promote investments through national and multinational enterprises in the Andean subregion.

Component 1. Design and implementation of policies to diversify and promote the production and export of fruits and vegetables

This component will work in close coordination with Program A, Institutional Strengthening to improve Policies for Agriculture. It will support national associations and confederations of producers and exporters of fruits and vegetables, providing them with technical assistance for organizing and managing their operations. It will encourage them to share their experiences in organization, policy design and implementation of activities to further the production and export of agricultural and agroindustrial products.

Component 2. Promotion of investments

The subprogram will help organize teams of experts from the countries, assigned to identify national or multinational investment projects. It will hold meetings of business leaders from throughout the Andean subregion and elsewhere, to promote investment projects. It will also provide advisory assistance for creating and operating multinational enterprises in the Andean subregion to produce and export fruits and vegetables.

Component 3. Technical assistance and training for production and export

The subprogram will provide technical assistance in growing export crops. It will focus on new varieties and appropriate techniques for cropping, post-harvest handling, cold storage, packaging and shipping, quality control, and commercial and technical market management.

The subprogram will promote and organize mechanisms for the exchange of experiences among public and private institutions for training and research in production and processing of export goods, and encourage these institutions to exchange experiences with international specialized organizations.

A number of studies will be required to make technical assistance and training activities more effective. Experiences with production and export in selected countries will be a topic of special interest, as will the possibility of supply contracts between producers and exporters. The supply and demand for selected products will come under scrutiny, and markets will be identified. Studies will focus on transportation needs and special characteristics of these services, as well as the quarantine requirements and degrees of agrochemical tolerance allowed in the different markets. Finally, an inventory will be drawn up of the subregion's supply of industrial equipment of the kind needed for export-oriented assembling and packing centers.

F. PROGRAM FOR PLANT PROTECTION AND ANIMAL HEALTH

The objective of this program is to form a coordinated, unified front for tackling the problems of plant and animal health shared by the Andean countries. Joint action in this field offers special advantages, especially because cooperation renders national efforts more effective in preventing, controlling and eradicating pests and diseases. If this program is successful, it will permit the Andean subregion to expand its external sales of agricultural commodities.

FOUNDATIONS FOR A PROJECT TO PREVENT, CONTROL AND ERADICATE THE FRUIT FLY

Background

The fruit fly is a generic name applied to around 20 species of flies. Altogether, they are causing direct production losses in Latin America estimated at around 30 percent. The direct economic cost of this pest is compounded by export restrictions in selective markets such as the United

States and Japan. Exporters find themselves obliged to apply special treatments in order to satisfy the plant protection requirements of their target markets.

Objective

The objective of the project is to combine the efforts of governments of the Andean countries, organizations of producers and exporters, and international organizations for cooperation and technical assistance to prevent, control and eradicate the different species of fruit flies. This will make it possible to produce high-quality fruits free of the pest and acceptable for both local consumption and export.

Component 1. Studies and statistics

This component will help the countries maintain and correlate weather and phenological records from fruit-growing zones. It will also be useful for designating pest-free areas, studying the geographic distribution and advance of pest infestations, and gauging the economic importance of the major species of fruit flies.

Component 2. Technology transfer and technical cooperation

A system will be set up for technology transfer and horizontal cooperation among the countries of the subregion, based on a program for integrated pest management and quarantine measures for the fruit fly. A computerized system will be designed and operated to provide information on activities for preventing, controlling and eradicating fruit flies, and to facilitate an exchange of bibliographic sources.

Component 3. Training

Training and simulation programs will be designed and implemented, focusing on prevention, control and eradication of the fruit fly.

FOUNDATIONS FOR A COOPERATIVE PROJECT TO FIGHT FOOT-AND-MOUTH DISEASE

Background

The first outbreaks of foot-and-mouth disease were recorded in 1910 in Bolivia and Peru, 1950 in Colombia and Venezuela, and 1956 in Ecuador. Because it is so destructive to the livestock industry, foot-and-mouth disease is easily the most serious of all contagious diseases of cattle. The presence of foot-and-mouth disease has profound repercussions on the world market for live animals as well as animal products and byproducts. Even greater restrictions are imposed wherever the disease is endemic, such as the Andean countries. Foot-and-mouth disease weighs heavily on the economies of these countries, spreading across large geographic expanses and causing shortages of animal products throughout the subregion.

Foot-and-mouth disease is estimated to cause US\$1.8 million in losses to the Andean countries every year. The disease impairs the reproductive

capacity of national herds and raises mortality levels. Approximately US\$12.0 million are spent annually on the purchase and use of vaccines. The countries of the subregion also spend some US\$12.2 million in public funds for disease control programs. All told, the disease costs the subregion nearly US\$26.0 million every year.

The countries of the Andean subregion have been making great strides to control this disease in recent years, using their own resources. Furthermore, a number of projects were launched in the 1970's, with financial support from the Inter-American Development Bank. All these efforts sharply reduced the incidence of foot-and-mouth disease in the subregion.

The Pan American Foot-and-Mouth Disease Center, under the auspices of the Pan American Health Organization (PANAFTOSA/PAHO) has been lending on-going technical assistance to disease control programs in affected countries. It has extensive facilities to continue working with the countries as they enter a new phase of integrated multinational action to eradicate the disease.

The Fifth Inter-American Ministerial Meeting on Animal Health took place in Washington D.C. in April 1987. The participants set themselves the task of eradicating foot-and-mouth disease from the western hemisphere by the year 2000, working through subregional projects.

PANAFTOSA has drawn up a Subregional Project for Foot-and-Mouth Disease in the Countries of the Andean Pact, which offers a frame of reference and strategies and methods for eradicating the disease. It also gives budget estimates for the first five years. What follows is a summary of the PANAFTOSA document.

Objective

The central objective is to strengthen national institutions, enabling them to eradicate foot-and-mouth disease in a framework of subregional action and coordination.

Strategic mechanisms will need to be implemented to reduce the incidence of the disease by controlling primary sources of infection, taking into account methods of livestock production, distribution of the disease, production and expeditious distribution of effective vaccines, and the establishment and maintenance of disease-free areas.

The project will be carried out through subprojects focusing on five geographic zones: a) the Atlantic coast of Colombia and the Lake Maracaibo watershed; b) preservation and expansion of disease-free areas in Peru and in Peru's border zones with Ecuador and Bolivia; c) on the border between Colombia and Ecuador; d) in the department of El Beni in Bolivia; and e) in the high plains of Colombia and Venezuela.

Component 1. Profiles of foot-and-mouth disease and livestock production systems

This component will complete the initial physical survey of all property holdings. It will then examine present methods of livestock production and study the ecosystems of foot-and-mouth disease. Serological surveys will be conducted, along with viral isolation to verify whether ecosystems are endemic to foot-and-mouth disease, or free of the disease. It will also monitor the clinical and serological behavior of foot-and-mouth disease in the field.

Component 2. Immunization

Decisions will be made under this component on how ranchers, veterinarians and private vaccinators can best participate in the vaccination program. Vaccination timetables will be prepared, based on operating needs and epidemiological considerations. Areas will be designated for vaccination, and no less than 80 percent of the cattle population will be vaccinated in primary endemic zones. At least 90,000 doses will be released in response to episodes of foot-and-mouth disease. Vaccination records will be standardized and temporary workers hired for vaccinating animals. The project will provide support for vaccine-producing laboratories, helping them turn out the necessary number of doses in time to meet vaccination timetables. It will continuously assess the quality of vaccines being used. It will evaluate and, if necessary, redefine requirements for distributing vaccines. It will establish an official cold network and oversee the private distribution network.

Component 3. Control of outbreaks

Under this component, the project will create a fund for slaughtering animals and for strategic vaccination. It will distribute a procedural manual for control of outbreaks, and maintain a monitoring system to provide follow-up when outbreaks occur. It will also carry out broad-based quarantine programs in areas affected by the disease.

Component 4. Control of the movement of susceptible animals

The project under this component will draft regulations and requirements to be met by all animals entering or leaving each zone. It will set up 11 new control posts to supervise animal movement and will monitor trade fairs, stock shows, livestock auctions and slaughterhouses.

Component 5. Profiles of vesicular stomatitis

Studies will be performed of the behavior of vesicular stomatitis in time and space. A data collection system will be operated to supplement present facilities, cross-referencing epidemiological files with information on the virus. Profiles will be prepared of strains of the vesicular stomatitis virus, and the pathogenesis will be studied.

Component 6. Training

Courses will be given on controlling outbreaks; on preparing profiles of production methods and foot-and-mouth disease ecosystems; on producing and controlling vaccines, and on diagnosis of vesicular diseases. This component will also include activities for continuing education and for distribution of technical and scientific materials.

Component 7. Private sector participation

This component will work in each department, province or state, each municipal district and each town to identify livestock organizations and natural leaders. It will conduct surveys on how ranchers react to the presence of foot-and-mouth disease, and will urge stock breeders to participate in program implementation. In each political or administrative unit, it will create and maintain support councils, and encourage private veterinarians to take part in program activities.

FOUNDATIONS FOR A PROJECT TO STRENGTHEN THE ANDEAN NETWORK OF ANIMAL HEALTH LABORATORIES

Background

Livestock production is one of the principal activities of the agricultural sector in the countries of the Andean subregion.

Three of the most important animal species are cattle, swine and sheep. Altogether, the five countries of the Andean subregion possess an estimated 49.5 million head of cattle, 13.5 million hogs and 28.1 million sheep. The livestock subsector is important, not only in terms of the amount of land it occupies, but also for the wide array of products it provides: meat, milk, leather, wool, eggs and more.

Because this subsector is so important, all five countries maintain closely intertwined, mutually reinforcing institutional structures and specific programs. They are designed to promote livestock production, seek genetic improvements, and ensure high-quality animal nutrition and a healthy herd.

Animal health activities in the countries focus on prevention, control and eradication of pests and diseases that curb livestock production and productivity and impair international trade of livestock products. They are also concerned with diseases that pose a public health risk.

Animal health laboratories are one of the most important structures the countries can develop for offering plant health services. These laboratories might be responsible for any of the following functions: a) diagnosis; b) production of veterinary biologics and pharmaceuticals; c) quality control on veterinary products; and d) research. Whatever their particular duties, however, animal health laboratories are the backbone of any country's official veterinary services.

The countries of the Andean subregion have developed a healthy laboratory infrastructure, with magnitude and operations varying according to the particular conditions in each country. The official animal health services of the ministries of agriculture operate a total of 60 diagnostic laboratories. In many cases, additional laboratories are run by the ministries of health, universities, and private companies.

The different countries are also engaged in various types of field research in animal health, production of biologics for disease prevention and diagnosis, and quality control on veterinary products. Again, these services vary from one country to another. The common denominator of the five countries is that the present economic situation is generally undermining the operations of official veterinary services and laboratories.

The main problems arising today are: desertion by professionals and trained technicians; shortages of materials and reagents; poor maintenance of facilities and equipment; and inadequate resources for operations and technical assistance.

In 1987, IICA began sponsoring a project to strengthen laboratories in the Central, Andean and Southern Areas. The subregional headquarters of this project for the Andean Area was in Quito, Ecuador, where an animal health specialist was assigned to work on the project full-time. The project has begun working to reorganize national networks of diagnostic laboratories for each country and to encourage horizontal technological exchange among countries. Additional external resources are needed if this action, begun by IICA, is to grow stronger and to begin addressing all the concerns relevant to the effective operation of animal health laboratories in the subregion.

Objective

The central objective is to strengthen animal health laboratory services in all five countries. The project should enable these laboratories to provide better services and sustained, on-going support to subregional programs for prevention, control and eradication of pests and diseases.

National institutions will need help in establishing mechanisms to ensure on-going operation of laboratory services. Specific goals include self-financing and establishment of contacts to facilitate horizontal technical exchange among the countries of the subregion.

Component 1. Organization and implementation of national animal health laboratory networks in Bolivia, Colombia, Ecuador, Peru and Venezuela, and of the Andean Network of Animal Health Laboratories

Under this component, the project will help with the technical and administrative organization of the national laboratory networks, opening channels of communication and laying a basis for operating the central laboratory and peripheral laboratories of each network. An important concern will be user participation in funding the laboratories, as a step toward achieving economic independence and sustaining uninterrupted services. The operating

mechanism for the Andean Laboratory Network will be implemented, to encourage horizontal technological exchange among the five countries. At least one reference laboratory will be opened in the subregion, to provide support to all the countries.

Component 2. Training and technological exchange to improve the operation of laboratory services

National and subregional courses will be taught for professional and technical personnel from the laboratories, bringing them up to date on the latest techniques for diagnosis, production and control of biologics, detection of toxic residues, and any other topics that are judged necessary. International consultants will be invited and scholarships will be offered for study outside the subregion, to train personnel in new laboratory technologies; basic materials will be provided for putting these new methods into practice.

Component 3. Revision, preparation and dissemination of technical and administrative procedural manuals governing the operation of laboratory services

Presently available materials will be used in preparing laboratory manuals to standardize methods and interpretation of results. Manuals on new technologies will also be reviewed and adapted for use in the laboratories of the subregion. Existing models for laboratory administration will be examined and adapted to the conditions in the subregion. The emphasis will be on using the latest developments in computerized systems for processing and analyzing technical and administrative information in the laboratories.

G. ANDEAN PROGRAM FOR CAMPESTINO DEVELOPMENT

1. Background

The countries of the Andean subregion must integrate if they are to further the processes of economic and social development. Integration would raise the level of equity among the different social strata of the population. Integration of the economies of these countries can also be instrumental in activating specific mechanisms whereby to tackle rural poverty and propel the campesino economy into full participation in the process of reactivating the agricultural sector.

The strategy for reactivating agriculture should include a broad array of rural development activities that respect both the heterogeneity and the specificity of the peasant farm economy, so as to put its productive potential to work. The campesino economy has played a key role in the overall dynamics of the system, basically serving as an instrument of capital formation for other sectors of society. The goal here would be to empower this subsector by focusing on some of the very functions it has traditionally played in producing foodstuffs and generating employment and foreign exchange.

The program for development of the campesino economy must be based on these conceptual foundations and should draw on other experiences with rural development programs and projects in the subregion. For example, broad experience was acquired through the implementation of the Andean Program for Technological Development (PADT-Rural). This program carried out specific projects in various places, all of which, viewed together, responded to problems shared by all the countries. It is also worthwhile to mention the experiences with rural development programs and projects in Bolivia, Peru, Colombia and Ecuador, which have yielded a great wealth of basic information through specific actions whose results are important for small-scale farm producers.

Efforts such as these clearly help to speed the process of rural development in the Andes. Above all, they make it easier to lay the foundations for broader cooperation. They are a first step toward harmonizing policy tools so as to strengthen subregional integration and improve the standards of living for Andean peasant farmers.

2. Objective

To strive for full incorporation of the peasant economy into the economic development process in the countries of the subregion, so as to raise income and employment levels in this group. Special emphasis will be placed on integrating the countries in their fight against rural poverty.

3. Components

The proposed Andean Program for Campesino Development consists of three basic components, as described below. The key task of the first component is institutional strengthening. The second meshes with the first, and its chief function is to facilitate technical exchange among participating institutions. The third and last serves the purpose of making rural development more accessible to campesino communities through funding for agricultural and off-farm production projects.

Component 1. Institutional strengthening

The primary objective of this component is to upgrade the technical and institutional capabilities of public and private organizations responsible for formulating and carrying out policies, programs and projects for rural development.

This component consists of two basic functions.

- Technical cooperation to:

- a. Improve the effectiveness of processes, methods and mechanisms for formulating and carrying out policies and programs. Such policies and programs must be suited to the real characteristics of the campesino economy, and should be implemented according to criteria of decentralization and participation by beneficiaries.

- b. Promote agricultural and off-farm production activities at the project level, maximizing the benefits of production potential already available in campesino communities.

- Training for:

- a. Technicians from public institutions and NGO's, to familiarize them with the full cycle of policies, programs and projects. Participatory methods will be used, and special emphasis placed on project management.
- b. Trainers, who will learn participatory methods and practices for campesino training, focusing on agricultural and off-farm production activities.

Component 2. The Andean Rural Development Network

The primary objective of this component is to institutionalize mechanisms for reciprocal cooperation among the countries. Program activities will facilitate the exchange of experiences, ensure that participating institutions have access to successful experiences with rural development, and generate technical and educational materials on specific topics concerning the peasant population in the Andes.

This component will have the following tasks:

- It will facilitate exchange of experiences and horizontal cooperation among the member countries in specific areas related to small-scale producers. The focus will be on conceptual, methodological and operational issues for rural development.
- It will retrieve information on the central concerns of rural development and disseminate it through publications and other media.
- It will train technicians in the specific needs of small-scale production, mainly through small demonstration projects.
- It will conduct research and applied experimentation with small-scale producers.
- It will document technological innovations that can improve the efficiency of primary and secondary processing of agricultural products, and to upgrade marketing methods. It will draw on experience already available in some of the countries of the subregion, such as the Andean Project for Campesino Technologies (PRATEC) in Peru.

Component 3. Andean Rural Development Fund

This component will operate the Andean Rural Development Fund, designed to build the production capacity of peasant farm communities by funding agricultural and off-farm production projects.

The Andean Rural Development Fund has already been created, at the behest of the seventh meeting of the Andean Parliament, held in Quito from February 27 to March 4, 1989. This recommendation was later ratified by the presidents of the countries of the subregion, in the Manifesto of Cartagena de Indias, dated May 26, 1989. The Andean Fund will provide a means to introduce new production activities into farm communities and guarantee a timely, on-going flow of stable resources for investment.

This Fund is a mechanism for attracting public and private resources from both national and international sources. The money would then be allocated, in accordance with specific regulations, to fund rural development programs, projects or activities. The targets of these programs must be organized small-scale producers or rural communities.

The resources allotted to the Fund can serve as seed capital for implementing self-sufficient mechanisms. They can also be used as the national counterpart for procuring foreign loans.

By its nature and scope, this component must necessarily be carried out with very active participation by public institutions in the member countries. Member institutions must assume responsibility and make very specific commitments, as was stated by the presidents in the Manifesto of Cartagena: "We charge the central banks of the Andean countries, with the cooperation of the Board of the Cartagena Agreement, the Andean Development Agency, the Andean Reserve Fund and the Inter-American Institute for Cooperation on Agriculture, to draw up a proposal for the creation of an Andean Rural Development Fund, to be presented to the next meeting of presidents of the Andean Group. This proposal should set forth the Fund's objectives, responsibilities, structure, organization and administration."

H. PROGRAM FOR DIRECT FOOD ASSISTANCE

The concept of food security has undergone drastic changes since it was first developed. Today's approach tends to be integrated and multi-sectoral. It focuses on the classic dimensions of food production and consumption, and goes on to include environmental reclamation and nutrition education. If the objectives of food security are to be met, the issues of food and nutrition must be addressed and correlated with figures on income distribution, employment generation, public investment and actions to eliminate extreme poverty.

The economic crisis and the adjustment programs adopted by the countries over the past ten years have dealt crushing blows to the poorest groups of the population. Poverty has become much more widespread, and the poor are poorer than ever. This has worsened problems of hunger and malnutrition in the countries of the subregion.

The Fifth World Food Survey, conducted by the FAO, found that the malnourished population in Latin America numbered 38 million in the 1979-1981 period, using moderate estimates, or 56 million if less moderate estimates were used. This means that from 11 percent to 16 percent of the total

population was malnourished. Most of the poor live in rural zones. Studies by ECLAC of the total rural population in Latin America and the Caribbean found an estimated 75 million people, or 56 percent of the rural population, living in rural poverty in 1981. To one degree or another, all the countries have experimented with policies to keep down the cost of food, generally through indiscriminate subsidies. The results underscore the need for less costly mechanisms that more closely benefit the target population.

2. Objective

The central objective of this program is to provide the institutional strengthening needed for self-sustained development of national and subregional capabilities for generating and implementing direct food and nutritional assistance programs. Such programs would target urban and rural groups living in extreme poverty.

The program will help national institutions design and implement mechanisms and instruments suitable for meeting this objective.

3. Components

The program consists of four mutually-reinforcing components. The objective can be met only if they are all implemented in a synchronized fashion. Each component takes a different approach to the same body of issues.

All four components will concentrate on upgrading capabilities in the five countries and in the subregion in the following areas: a) food and nutritional surveillance; b) monitoring economic policies and their impact on vulnerable population groups; c) changing eating habits; and d) coordinating the public sector with the private sector.

Component 1. Research and documentation of successful experiences with food and nutritional assistance

An inventory will be drawn up of experiences registered by national and international organizations in designing, organizing, implementing, monitoring and evaluating programs and actions for food and nutritional assistance directed at: a) poverty-stricken urban groups; b) landless farm workers; and c) small-scale farmers. These experiences will be documented, with special emphasis on the surrounding economic policy environment.

Component 2. Direct technical support to design, activate and consolidate mechanisms and instruments for defining and implementing food and nutritional assistance programs

The research and documentation of experiences, prepared under Component 1, will be combined with information on the specific needs of each country. Technical support can then be provided for designing, activating and consolidating mechanisms and instruments that will help the countries define and implement food and nutritional assistance programs.

Component 3. Complementary training to develop national capabilities for defining and implementing food and nutritional assistance programs

National and subregional training activities will concentrate on the design, use and operation of these mechanisms and instruments, as well as other areas of interest for food and nutritional assistance. Mechanisms will be defined and implemented for self-sustained development of capabilities needed in each country and for the subregion as a whole.

Component 4. Horizontal cooperation for dissemination and exchange of experiences with food and nutritional assistance

This component will rely on horizontal cooperation among specialists and institutions in the subregion. This type of cooperation can ensure that the individual experiences of each country are publicized and shared. Actions will include technical assistance, seminars and fellowships, with invited specialists from the national institutions themselves.

**STATISTICAL
APPENDIX**

TABLE 1

**BOLIVIA: AGRICULTURAL PRODUCTION AND
TRADITIONAL INPUTS,
1970, 1975, 1980, 1985**

Production and Inputs	Years			
	1970	1975	1980	1985
-Value added by the sector (1984 US\$ x 000,000)	592	n/a	1,206	1,076
-Land under cultivation (x 000 ha)	2,240	3,285	3,370	3,397
-Labor (EAP in thousands of people)	736	770	808	873
-Capital outlays (1958 dollars x 000)	34,109	54,183	63,460	n/a
-Public expenditures* (1960 pesos x 000,000)*	1,181	1,937	2,841	n/a

* Includes public expenditures on administration, irrigation, research and extension, education, health, marketing and agrarian reform.

SOURCE: IDB, Economic and Social Progress in Latin America, 1986 Report, 417; V.J. Elias, "Government expenditures on agriculture and agricultural growth in Latin America," Research Report No. 50 (Washington, D.C.: IFPRI, Oct. 1985): 49-50; FAO, Statistics Division, Production Yearbook, 1986 (Rome, 1987), 7, 25.

TABLE 2
BOLIVIA: AGRICULTURAL PRODUCTION BY VALUE
AND BY VOLUME
1970, 1975, 1980

Commodity	Production value (US\$ x 000)			Production volume (tons x 000)		
	1970	1975	1980	1970	1975	1980
Wheat	3,696	5,208	4,200	44	62	50
Rice	5,056	9,954	6,162	64	126	78
Corn	10,018	19,215	20,664	286	305	328
Barley	4,526	5,840	3,066	62	80	42
Beans	1,456	2,080	2,288	14	20	22
Potatoes	43,230	55,044	47,520	655	834	720
Cassava	7,956	10,260	8,064	221	285	224
Onions	2,701	3,358	3,504	37	46	48
Sugar	8,808	12,600	15,480	1,468	2,100	2,580
Cotton	2,775	12,210	3,885	5	22	7
Cottonseed	616	1,344	784	11	24	14
Soybeans	128	768	2,816	2	12	44
Nuts	1,431	2,385	2,862	9	15	18
Oranges	1,428	2,144	2,720	54	67	87
Bananas and plantains	3,421	4,323	4,026	311	393	366
Coffee	1,495	2,093	2,691	5	7	9
Beef	21,516	27,132	33,516	54	68	84
Milk	19,742	4,264	4,674	131	52	57

SOURCE: United States Agency for International Development (USAID), Economic and Social Data Services Division, All Data currently available on Bolivia (Washington, D.C., 1982).

TABLE 3
BOLIVIA: VALUE OF REGISTERED IMPORTS AND EXPORTS
OF AGRICULTURAL COMMODITIES
1980-1984

US\$ x 000,000

Imports, exports, items	Years			
	1980	1982	1983	1984
-Imports	121.8	102.7	147.3	73.0
Grains and cereal products	55.9	66.5	84.5	45.8
Dairy products and eggs	18.3	11.1	4.5	8.5
Miscellaneous foods	22.1	90.9	10.2	6.4
-Exports	103.7	52.6	41.6	22.4
Sugar and honey	52.5	8.8	12.4	6.2
Coffee, tea, cocoa, spices	22.5	15.9	13.4	6.8
Live animals	11.4	11.9	5.9	1.7

SOURCE: FAO, Statistics Division, Trade Yearbook, 1985 (Rome, 1986), 337.

TABLE 4

COLOMBIA: AGRICULTURAL PRODUCTION AND
TRADITIONAL INPUTS
1970, 1975, 1980, 1985

Production and Inputs	Years			
	1970	1975	1980	1985
-Value added by the sector (1986 US\$ x 000,000)	4,905	n/a	7,514	7,973
-Land under cultivation (x 000 ha)	5,054	5,310	5,650	5,695
-Labor (EAP in thousands of people)	2,447	2,594	2,736	2,835
-Capital outlays (1956 dollars x 000)	5,850	8,065	10,279	n/a
-Public expenditures (1978 pesos x 000)*	22,973	18,570	23,358	30,719

* Includes direct subsidies to agricultural producers and exporters, agrarian reform, research, irrigation, land rehabilitation, institutional credit subsidy, access roads, rural development, service on the sectoral debt.

SOURCE: IDB, 1987 Report, 454; O.Delgado, "Consideraciones preliminares sobre el gasto publico en el sector agrario," in Seminario Internacional de Economia Campesina y Pobreza Rural" (Paipa: Ministry of Agriculture, 1987), 275; Colombian National Bureau of Statistics, Colombia, Estadistica Nacional 1987, Vol. I (Bogota, 1987): 219; FAO, Production Yearbook, 1985 8,25; V.J. Elias, "Government expenditures on agriculture," 49-50.

TABLE 5
COLOMBIA: PRODUCTION OF MAJOR AGRICULTURAL
COMMODITIES, AND LAND HARVESTED
1982, 1986, 1987

Item	Production per year (MT x 000)			Land harvested (Ha x 000)		
	1982	1986	1987	1982	1986	1987
Wheat	70.7	81.7		45.3	46.2	
Barley	55.7	73.2		34.9	37.5	
Rice	2,018.0	1,631.0	1,864.6	445.0	332.0	384.5
Corn	898.0	788.0		636.0	591.0	622.8
Cassava	1,552.0	1,334.0	1,285.0	170.0	153.0	156.4
Potatoes	2,149.0	2,091.0		165.0	149.0	
Beans	71.2	103.9		110.1	127.0	
Sugarcane	20,455.0	23,183.0		261.0	340.0	
Soybeans	98.8	167.0		49.2	78.5	
Sesame	7.2	17.9		12.3	29.4	
Cotton	153.6	337.7	320.5	599.2	189.6	174.2
Tobacco	48.7	28.6		30.9	18.5	
Plantains and bananas	3,177.0	3,338.0	3,585.5	384.0	380.0	399.4
Coffee	727.0	n/a		1,000.0	n/a	
Cacao	39.4	46.7		77.3	96.9	
African palm	501.0	823.0		31.6	48.8	

SOURCE: JUNAC, Estadística Agropecuaria Andina 1982-1986 (Lima, Peru, 1988), 100-129.

For 1987 figures: JUNAC, Computer Department.

TABLE 6
COLOMBIA: AGRICULTURAL PRODUCTION BY
COMMODITY GROUP, AS PERCENT
OF TOTAL VOLUME

Product group	Years		
	1970-1975	1975-1980	1980-1984
1. Foods for direct consumption	66.6	63.1	61.4
2. Processed foods	22.0	24.2	25.0
3. Non-edible raw materials	3.9	3.3	2.1
4. Exports	7.5	9.4	11.5
Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
% exports / % foods for direct consumption	11.3	14.9	18.8
% processed foods and raw materials / % foods for direct cons.	33.1	38.3	40.4

SOURCE: J.A. Gomez, "La evolucion reciente de la situacion agro-alimentaria en Colombia," Revista de Planeacion y Desarrollo 19 (Bogota, March-June 1987): 253.

TABLE 7

COLOMBIA: RATIO OF FARMGATE PRICES TO
INTERNATIONAL PRICES
1960-1982

Year	Barley		Corn		Sorghum		Wheat	
	1	2	1	2	1	2	1	2
1960	1.51		1.69		n/a		2.34	
1961	1.62		1.77		n/a		2.15	
1962	n/a		1.20		n/a		1.74	
1963	1.54		1.55		n/a		1.74	
1964	1.71		1.95		n/a		2.15	
1965	0.97		1.32		1.27		2.05	
1966	1.32		1.45		1.25		2.17	
1967	1.28		1.58		1.05		1.76	
1968	1.22		1.56		1.54		1.85	
1969	1.18		1.31		1.23		1.88	
1970	1.12	1.03	1.32	1.38	1.12	1.78	1.81	1.84
1971	1.12	1.21	1.33	1.46	1.07	1.17	1.30	1.53
1972	0.57	0.69	1.58	1.77	1.34	1.49	1.47	1.66
1973	0.65	0.74	1.25	1.44	0.94	1.07	0.74	0.86
1974	0.68	0.86	0.87	0.98	0.77	0.87	0.85	0.97
1975	1.06	0.90	1.06	1.11	0.90	0.94	1.34	1.51
1976	0.98	1.06	1.21	1.24	1.02	1.02	1.40	1.31
1977	n/a	1.12	2.30	2.25	1.65	1.59	2.03	2.07
1978	n/a	1.38	1.82	1.99	n/a	1.43	n/a	1.54
1979		0.93		2.03		1.54		1.42
1980		0.96		2.37		1.39		1.54
1981		0.86		1.83		1.93		2.08

SOURCE: Garcia Garcia, "The effects of exchange rates and commercial policy on agricultural incentives in Colombia, 1953-1978" (IFPRI, 1981), 50; World Bank, Colombia's External Sector and Agricultural Policies for Adjustment and Growth, Vol. II (Washington D.C., 1984), 127.

TABLE 8
 ECUADOR: PRODUCTION AND IMPORT VOLUME OF
 HIGH-PRIORITY FOOD ITEMS
 1970-1987

(MT x 000)

Item	Year							
	1970	1975	1980	1981	1982	1983	1984	1987
Production volume								
Rice	246.7	449.1	380.6	434.4	484.4	273.5	437.2	780.8
Corn (hard & soft)	269.5	280.2	241.7	281.2	323.7	229.6	325.8	385.0
Potatoes	541.8	499.4	323.2	391.6	416.4	314.0	389.6	353.9
Wheat	81.0	64.6	31.1	41.4	38.5	26.9	25.4	n/a
Import volume								
Rice	1.4	n/a	0.3	11.7	n/a	4.8	42.8	0.0
Corn	0.5	n/a	0.1	10.0	n/a	10.0	n/a	n/a
Wheat	78.9	171.8	322.7	177.8	311.3	230.9	268.0	278.8

SOURCE: Ministry of Finance and Public Credit, "Estimates of area harvested and production," Anuario de Comercio Exterior.

1987 figures: JUNAC, Computer Department.

TABLE 9
 ECUADOR: VALUE OF EXPORTS FROM
 AGRICULTURE AND FISHING
 1980-1986

US\$ x 000,000

Item	Year						
	1980	1981	1982	1983	1984	1985	1986
Bananas	195.7	212.8	116.3	145.7	106.7	190.0	263.4
Coffee	132.2	102.4	142.8	151.1	176.1	180.9	298.9
Shrimp	56.9	77.5	122.3	175.0	159.8	156.5	287.9
Cacao	31.3	39.5	55.9	11.9	96.8	135.3	71.0
Tuna	2.4	1.3	2.0	1.6	2.5	5.0	16.5

SOURCE: Coffee and tuna, Central Bank of Ecuador, Informacion Estatica Mensual, No. 1611 (1988), 27.

Coffee, banana and cacao: Ministry of Finance, Anuarios de Comercio Exterior.

TABLE 10

ECUADOR: RATIO OF FARMGATE PRICES TO
INTERNATIONAL PRICES
1982-1986.

Item	Years				
	1982	1983	1984	1985	1986
Corn	2.11	2.66	2.40	2.20	2.33
Cacao	0.76	1.00	0.86	0.77	0.76
Soybeans	1.31	1.42	1.39	1.39	1.75
Cotton	0.29	0.16	0.36	0.51	0.51

SOURCE: Calculations based on: JUNAC, Estadística Agropecuaria Andina, 161-166; and IDB, 1987 Report, 498.

TABLE 11

PERU: AGRICULTURAL PRODUCTION AND
TRADITIONAL INPUTS
1970, 1975, 1980, 1985-1987

Production and Inputs	1970	1975	Years			
			1980	1985	1986	1987
-Value added by the sector (1986 US\$ x 000,000)	3,017	n/a	3,001	3,539	3,681	3,868
-Land under cultivation (x 000 ha)	2,813	3,195	3,520	3,696	n/a	n/a
-Labor (EAP in thousands of people)	1,880	1,956	2,052	2,399	2,423	2,460
-Capital outlays (1973 soles x 000,000)	39,734	47,110	50,804	n/a	n/a	n/a
-Public expenditures (1960 soles x 000,000)	10,146	16,010	n/a	30,719	n/a	n/a

SOURCE: IDB, 1987 Report, 454; FAO, 1986 Production Yearbook, 8-25; V.J. Elias, "Government expenditures on agriculture," 45-50.

TABLE 12

PERU: PRODUCTION AND IMPORTS OF MAJOR FOOD
AND AGROINDUSTRIAL ITEMS
1970, 1975, 1980, 1985, 1986, 1987

(MT x 000)

Item	1970	1975	Production			
			1980	1985	1986	1987
Wheat	125.4	126.3	77.1	92.2	121.0	130.5
Milk	825.0	812.5	780.0	808.8	819.3	830.0
Hard corn	388.4	421.0	300.9	495.5	644.6	689.9
Soybean oil	n/a	n/a	n/a	n/a	n/a	n/a
Barley	170.0	149.0	100.0	95.4*	n/a	n a
Beef	84.9	86.1	83.8	101.4	90.3	107.3
Potatoes	1,928.5	1,639.6	1,379.6	1,556.8	1,657.5	1,707.1
Rice**	536.7	536.8	420.4	878.3	725.9	1168.6
Fish	132.0	199.7	375.5	357.3	289.2	280.2
Sorghum	12.2	29.4	35.0	23.1	37.9	23.8

Item	1970	1975	Imports			
			1980	1985	1986	1987
Wheat	521.8	820.3	823.7	825.4	1,083.3	982.6
Milk	171.0	353.5	300.2	152.3	n/a	n/a
Hard corn	1.7	323.9	485.4	250.2	354.5	476.1
Soybean oil	21.3	57.3	39.9	32.0	48.7	55.7
Barley	14.3	33.1	37.9	57.1	50.7	40.2
Beef	38.3	4.1	3.6	4.3	29.9	24.8
Potatoes	0.2	0.0	2.1	0.0	13.2	-
Rice**	15.4	78.2	225.8	0.0	188.1	211.4
Fish	n/a	n/a	n/a	n/a	n/a	n/a
Sorghum	0.0	42.7	0.4	0.1	0.3	0.2

SOURCE: Ministry of Agriculture.

* 1984

** Production figures reflect unhulled rices; imports are hulled rice.

TABLE 13

PERU: VALUE OF EXPORTS FROM AGRICULTURE, FORESTRY,
HUNTING, FISHING AND AGROINDUSTRY
1982-1986

(US\$ x 000,000)

Item	1982	1983	1984	1985	1986
Exports: Agric., Forestry, Hunting, Fishing	<u>129.9</u>	<u>140.4</u>	<u>161.1</u>	<u>159.0</u>	<u>290.1</u>
-Coffee, mate, spices	105.1	113.3	130.4	128.1	264.5
-Edible fruits	4.6	4.8	4.5	4.9	6.2
-Prod. of animal origin (excluding live animals)	1.8	3.4	7.0	7.0	6.3
-Natural fibers and other prod. of vegetable origin	2.7	2.1	3.4	2.7	3.8
-Other	15.7	16.8	15.8	16.3	9.3
Agroindustrial products	<u>374.4</u>	<u>264.1</u>	<u>398.7</u>	<u>448.3</u>	<u>346.0</u>
-Residues, food wastes, animal feeds	88.7	37.3	114.0	114.5	117.7
-Fish, shellfish, mollusks	23.8	64.4	63.2	69.0	40.6
-Cotton	114.8	73.3	61.9	112.3	83.7
-Cocoa	17.0	15.1	24.0	24.9	24.0
-Silk, wool, animal hair	24.5	27.9	35.1	37.8	24.4
-Sugars	17.7	7.1	18.9	21.1	14.5
-Prepared products from meat, fish, shellfish, mollusks	45.3	15.6	22.0	15.4	12.8
-Other	42.6	22.5	82.5	53.3	28.3

SOURCE: JUNAC, Estadística Agropecuaria Andina, 25-28, 51-56.

TABLE 14

PERU: RATIO OF FARMGATE PRICES TO
INTERNATIONAL PRICES
1982-1986

Item	Years				
	1982	1983	1984	1985	1986
Cotton	0.29	0.26	0.53	0.34	0.42
Coffee	0.26	0.22	0.35	0.32	0.43
Cacao	n/a	n/a	n/a	0.53	n/a
Corn	0.33	0.46	0.51	0.23	0.42

SOURCE: Calculated from figures given in: JUNAC, Estadística Agropecuaria Andina, 161, 166; and IDB, 1987 Report, 498.

TABLE 15

VENEZUELA: AGRICULTURAL PRODUCTION AND
TRADITIONAL INPUTS
1970, 1975, 1980, 1985

Production and Inputs	Years			
	1970	1975	1980	1985
-Value added by the sector (1986 US\$ x 000,000)	2,392	n/a	3,216	3,496
-Land under cultivation (x 000 ha)	3,503	3,590	3,755	3,770
-Labor (EAP in thousands of people)	798	815	793	781
-Capital outlays (1973 Bs. x 000,000)	14,670	15,458	16,099	n/a
-Public expenditures (1960 Bs. x 000,000)	7,641	11,857	n/a	n/a

SOURCE: IDB, 1987 Report, 454; V.J. Elias, "Government expenditures on agriculture," 49-50; FAO, 1986 Production Yearbook, 8,25.

TABLE 16
VENEZUELA: PRODUCTION AND IMPORTS OF GRAINS
1982-1988
(MT x 000)

Year	Wheat	Corn	Sorghum	Soybeans	Rice
Production:					
-1982	0.3	504.0	377.3	0.0	608.5
-1983	0.3	487.8	364.0	0.0	449.5
-1984	0.3	547.1	472.5	0.0	407.8
-1985	0.3	868.4	481.4	0.0	471.7
-1986	0.3	1,172.8	755.9	0.0	321.5
-1987	0.3	1,267.3	777.2	10.1	373.2
-1988	0.3	1,281.4	819.8	11.0	383.3
Imports:					
-1982	773.3	1,033.3	619.8	544.4	0.0
-1983	873.2	1,398.0	282.2	608.4	0.0
-1984	977.7	1,324.5	338.3	770.9	0.0
-1985	1,099.2	667.4	998.8	940.3	0.0
-1986	958.9	1.9	709.3	728.7	0.0

SOURCE: O.C.E.I., Department of Foreign Trade.

TABLE 17

VENEZUELA: PERCENT OF AGROINDUSTRIAL RAW MATERIALS
SUPPLIED DOMESTICALLY*
1971, 1975, 1981-1986.

Type of Agroindustry	1971	1975	1981	1984	1985	1986
-Livestock slaughter, processed or preserved meats	96.6	97.1	90.8	95.3	96.9	97.2
-Fruits and vegetables--canned, preserved	86.3	79.8	80.7	85.3	88.3	89.7
-Prepared fish and other seafoods	86.1	84.2	94.2	96.2	99.4	99.1
-Milled products	72.0	63.3	52.5	59.8	67.0	75.2
-Refined and manufactured sugar	98.9	98.2	96.2	98.9	99.3	99.4
-Cocoa, chocolate, candies	80.2	81.4	82.2	87.1	87.6	90.8
-Processed animal feeds	43.6	42.3	34.7	43.0	54.7	57.4
-Alcoholic beverages	88.2	84.7	91.9	93.7	94.6	90.8
-Beer and malt	48.7	55.8	71.0	48.0	49.9	64.2
-Cloth: spun, woven, finished	68.2	74.7	67.1	73.5	72.5	78.1
-Textiles (excluding finished garments)	89.5	89.7	100.0	96.3	96.4	98.4
-Lumber, other	94.9	93.6	66.0	93.8	90.8	93.0
-Wood pulp, paper, cardboard	39.8	34.1	60.0	58.1	49.5	54.1

* Agroindustrial supply coefficient: the value of Venezuela's total production of agricultural raw materials, divided by the total value of raw materials of agricultural origin consumed by national industry, at factory or wholesale prices.

SOURCE: Ministry of Livestock and Animal Husbandry, Agricultural Sector Planning Office, Indicadores Sector Agricola 1968-1983 (Caracas, 1984), 157.

Figures for 1984, 1985, 1986: OCEI, "Resumen Nacional de la Encuesta Industrial."

TABLE 18
VENEZUELA: VALUE OF MAJOR AGRICULTURAL AND
AGROINDUSTRIAL EXPORTS
1982-1987

(US\$ x 000)

Item	1982	1983	1984	1985	1986	1987
a. Primary products	69.0	50.1	75.5	93.0	122.4	n/a
-Vegetables, tubers, legumes	20.2	13.6	16.3	14.6	11.3	n/a
-Edible fruits	27.2	20.6	27.2	31.7	29.0	n/a
-Coffee, mate, spices	2.9	2.5	15.6	25.9	57.7	n/a
-Cacao	13.6	10.6	12.0	14.4	13.5	12.9
-Other	5.1	2.8	4.4	6.4	10.9	n/a
b. Agroindustrial products	27.8	36.3	75.6	92.6	129.9	n/a
-Fish, shellfish, mollusks	10.4	23.3	46.6	61.0	62.8	n/a
-Processed meat, fish	0.0	0.9	3.2	7.4	16.3	n/a
-Cocoa powder	1.6	1.1	3.0	3.1	3.6	n/a
-Processed tobacco	12.9	7.7	9.8	8.2	18.0	12.5
-Other	2.9	3.3	13.0	12.9	29.2	n/a

SOURCE: JUNAC, Estadística Agropecuaria Andina, 26-56.

Figures for 1987: JUNAC Computer Department.

TABLE 19
COUNTRIES OF THE ANDEAN SUBREGION: FOREIGN TRADE
1980-1987

Year Export/Import	Bolivia	Colombia	<u>Country</u> Ecuador	Peru*	Venezuela
1980					
Exports	941.8	3,986.6	2,544.2	3,916.0	19,050.5
Imports	680.6	4,283.3	2,241.8	3,090.0	10,876.9
1981					
Exports	913.3	3,157.8	2,544.2	3,249.0	19,963.2
Imports	681.8	4,729.6	2,361.5	3,802.0	12,122.9
1982					
Exports	779.8	2,933.1	2,207.4	3,293.0	15,386.2
Imports	402.6	5,047.6	2,054.7	3,722.0	12,797.4
1983					
Exports	755.1	2,969.7	2,365.0	3,015.0	14,570.5
Imports	473.1	4,464.0	1,408.0	2,722.0	6,408.7
1984					
Exports	724.5	3,378.0	2,622.0	3,147.0	15,967.0
Imports	412.3	4,027.0	1,567.0	2,140.0	7,262.0
1985					
Exports	623.4	3,518.0	2,905.0	2,978.0	14,178.0
Imports	462.8	3,734.0	1,611.0	1,806.0	7,388.0
1986					
Exports	504.3	5,008.0	2,181.0	2,531.0	8,704.0
Imports	478.2	3,464.0	1,677.0	2,596.0	7,601.0
1987					
Exports	n/a	n/a	n/a	2,605.5	n/a
Imports	n/a	n/a	n/a	3,068.0	n/a

SOURCE: IDB, 1987 Report, 475.

*PERU: Banco Central de Reserva, Compendio Estadístico de Comercio Exterior y Política Cambiaria (Dec. 1988).

TABLE 20
COUNTRIES OF THE ANDEAN SUBREGION:
TOTAL FOREIGN TRADE AND INTRA-SUBREGIONAL TRADE
1982, 1986

	All products		Agriculture	
	Imports	Exports	Imports	Exports
(1) Total (US\$ x 000,000)				
1982	25,149	25,751	1,416	2,431
1986	17,473	19,171	1,199*	4,473
(2) Inter-subregional (US\$ x 000,000)				
1982	1,248	1,180	41.8	26.8
1986	677	621	16.6*	15.5
(2) / (1) x 100				
1982	4.9	4.6	2.9	1.1
1986	3.8	3.2	1.4	0.3

SOURCE: JUNAC, Estadística Agropecuaria Andina, 21-32.

* Calculated from IDB, 1986 Report, 446-454.

TABLE 21
 COUNTRIES OF THE ANDEAN SUBREGION:
 REAL AND SECTORAL GDP, 1986

(1986 US\$ x 000,000)

Sector	Bolivia	Colombia	Ecuador	Peru*	Venezuela
Real GDP	6,119	38,638	12,572	14,281	47,988
Agriculture	1,213	8,136	1,829	4,810	3,734
Mining	640	1,008	1,928	14,455	3,439
Manufacturing	613	8,398	2,191	10,840	10,132
Electricity	55	400	163	519	1,953
Construction	206	1,448	457	2,484	1,708
Commerce	773	4,805	1,917	7,966	4,588
Transportation	471	3,734	855	2,922	6,352
Financial services	1,094	2,739	910	3,977	6,796
Government	764	3,079	1,177	3,159	6,734
Other services	290	4,887	797	3,148	4,037

SOURCE: IDB, 1987 Report, 450-458.

* 1987 data are expressed in millions of 1987 dollars.

TABLE 22
 COUNTRIES OF THE ANDEAN SUBREGION:
 REAL AND SECTORAL GDP, 1970

(1986 US\$ x 000,000)

Sector	Bolivia	Colombia	Ecuador	Peru*	Venezuela
Real GDP	4,587	19,365	4,859	16,954	34,175
Agriculture	845	4,905	1,191	3,017	2,392
Mining	982	516	175	1,398	6,601
Manufacturing	567	4,143	819	4,031	5,578
Electricity	22	142	36	102	580
Construction	173	670	299	705	1,360
Commerce	559	2,413	813	2,153	3,655
Transportation	164	1,502	285	848	3,525
Financial services	566	1,325	476	1,543	4,175
Government	379	1,338	455	1,364	3,430
Other services	331	2,410	310	1,794	2,879

SOURCE: IDB, 1987 Report, 450-458.

TABLE 23
COUNTRIES OF THE ANDEAN SUBREGION:
CONSUMER PRICE VARIATIONS FROM DECEMBER
TO DECEMBER
1978-1988

(percent)

Year	Bolivia	Colombia	Ecuador	Peru	Venezuela
1978	13.5	17.8	11.8	73.7	7.1
1979	45.5	29.8	9.0	66.7	20.5
1980	23.9	26.5	14.5	59.7	19.6
1981	25.2	27.5	17.9	72.7	11.0
1982	296.5	24.1	24.3	72.9	7.3
1983	328.5	16.5	52.5	125.1	7.0
1984	2,177.2	18.3	25.1	111.5	18.3
1985	8,170.5	22.3	24.4	158.3	5.7
1986	66.0	21.0	27.3	62.9	12.3
1987	10.5	24.7	30.6	104.8	36.1
1988	n/a	n/a	n/a	1,722.3	n/a

SOURCE: United Nations, "Balance Preliminar de la Economía Latinoamericana, 1987," Notas sobre la Economía y el Desarrollo 455-456 (Dec. 1987): 17.

TABLE 24
 COUNTRIES OF THE ANDEAN SUBREGION:
 PERCENT COMPOSITION OF TOTAL EXPORTS
 1965, 1985 and 1987

Year	Bolivia	Colombia	Ecuador	Peru*	Venezuela
Fuel, minerals, metals					
1965	94	18	2	45	97
1985	58	15	74	66.6	94
1987	n/a	n/a	n/a	60.5	n/a
Other primary goods (incl. agric.)					
1965	3	75	96	54	1
1985	12	67	25	18.8	1
1987	n/a	n/a	n/a	22.9	n/a
Machinery and equip. for transportation					
1965	0	0	0	-	-
1985	1	1	0	1	-
1987	n/a	n/a	n/a	0	n/a
Other manufactures					
1965	4	4	2	1	2
1985	6	6	1	14.6	5
1987	n/a	n/a	n/a	16.6	n/a

SOURCE: The World Bank, World Development Report 1987 (New York: Oxford Univ. Press, 1987), 222,223.

* Banco Central de Reserva, Compendio Estadístico.

TABLE 25
COUNTRIES OF THE ANDRAN SUBREGION:
PERCENT COMPOSITION OF TOTAL IMPORTS
1965 AND 1985

Year	Bolivia	Colombia	Ecuador	Peru	Venezuela
Food					
1965	19	8	10	27	12
1985	23	10	10	25	19
Fuel					
1965	1	1	9	3	1
1985	2	11	2	3	1
Other primary goods					
1965	3	10	4	5	5
1985	3	7	5	3	6
Machinery and equip. for transportation					
1965	34	45	33	41	44
1985	25	35	36	38	43

SOURCE: The World Bank, 1987 Report, 224-225.

TABLE 26
COUNTRIES OF THE ANDEAN SUBREGION:
EXPORTS, IMPORTS, TRADE BALANCE
1985, 1986, 1987
(US\$ x 000,000)

	Bolivia	Colombia	Ecuador	Peru	Venezuela
Exports (FOB)					
1985	623	3,713	2,870	2,978	14,178
1986	543	5,543	2,186	2,531	8,686
1987	450	5,465	2,010	2,605	10,330
Imports (FOB)					
1985	463	3,734	1,723	1,806	7,388
1986	580	3,709	1,631	2,596	7,700
1987	660	3,930	2,110	3,068	8,170
Balance					
1985	161	(21)	1,147	1,172	6,791
1986 (36)	1,834	555	(65)	986	
1987	(210)	1,535	(100)	(463)	2,160

SOURCE: United Nations, 1987 Balance Preliminar, 21.

TABLE 27
 COUNTRIES OF THE ANDREAN SUBREGION:
 TOTAL GOVERNMENT SURPLUS (+) OR DEFICIT (-)
 AS A SHARE OF GDP
 1970, 1980, 1982-1987

Year	Bolivia	Colombia	Ecuador	Peru*	Venezuela
1970	-0.8	-1.0	-2.8	-1.4	-1.2
1980	-7.6	-2.0	-0.8	-2.4	-0.4
1982	-6.6	-4.1	-4.0	-3.1	-4.9
1983	-14.0	-3.5	-2.8	-7.2	-2.3
1984	n/a	-4.2	-0.9	-4.1	-2.7
1985	n/a	-5.6	1.0	-2.0	-2.3
1986	n/a	n/a	n/a	-3.5	n/a
1987	n/a	n/a	n/a	-5.5	n/a

SOURCE: IDB, 1986 Report, 426.

- * BCR: Memoria 1987.
 INE: National Accounting Office

TABLE 28
COUNTRIES OF THE ANDREAN SUBREGION:
ANNUAL PERCENT CHANGE OF THE MONEY SUPPLY
1970, 1975, 1980-1987

Year	Bolivia	Colombia	Ecuador	Peru	Venezuela
1970	9.0	19.8	22.6	42.5	9.9
1975	22.6	9.7	23.0	28.8	47.3
1980	38.4	24.8	25.7	71.1	14.1
1981	15.1	23.1	21.7	43.4	11.4
1982	120.6	19.7	21.6	33.7	9.9
1983	198.9	19.7	22.3	75.9	11.6
1984	790.9	21.2	27.2	97.3	26.8
1985	18,833.0	n/a	n/a	204.2	14.1
1986	n/a	n/a	n/a	68.9	n/a
1987	n/a	n/a	n/a	111.0	n/a

SOURCE: International Monetary Fund, International Financial Statistics, 1986 Yearbook, 88-89.

TABLE 29
COUNTRIES OF THE ANDIEN SUBREGION:
GROSS DOMESTIC INVESTMENT
AS A SHARE OF GDP
1960-1987

Country	Period		
	1960-69	1970-79	1980-87
	(average for period)		
Bolivia	18.4	21.7	11.8
Colombia	19.6	19.1	19.7
Ecuador	21.3	24.6	19.6
Peru	20.9	22.7	22.7
Venezuela	18.4	26.5	18.0
Average all five countries	19.7	22.9	18.3

SOURCE: IDB, 1988 Report, 32.

TABLE 30
COUNTRIES OF THE ANDEAN SUBREGION:
INDEX OF REAL EXCHANGE RATE
1970-1987

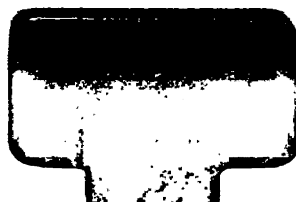
Year	Country				
	Bolivia	Colombia	Ecuador	Peru	Venezuela
1970	111.6	133.4	111.7	77.0	108.5
1975	116.5	123.7	113.9	71.0	108.1
1979	107.3	98.0	94.0	108.5	105.2
1980	100.0	100.0	100.0	100.0	100.0
1981	82.6	101.3	99.6	91.2	95.8
1982	97.0	96.8	104.4	93.5	90.5
1983	96.2	99.1	135.2	104.5	85.7
1984	96.5	109.6	159.5	108.3	122.0
1985	113.8	123.3	140.0	129.5	112.7
1986	128.2	133.9	196.2	89.8	100.2
1987	137.2	137.4	215.9	59.7	120.3

SOURCE: IMF, cited by A. de Janvry, et.al., "Rural Development in Latin America: An Evaluation and Proposal" (Stanford University), 19.

TABLE 31
COUNTRIES OF THE ANDEAN SUBREGION:
RENEWABLE NATURAL RESOURCES

	Bolivia	Colombia	Ecuador	Peru	Venezuela
-Arid and semi-arid lands (% total land) (ha x 000)	25.0			20.0	
-Surface water erosion (% total land)		51.0		30.0	
-Water erosion, mass movements (% total land)		23.0		30.0	

SOURCE: M.J. Dourojeanni, Recursos Naturales de America Latina y el Caribe: Situacion y Tendencias (Washington, D.C.: World Wildlife Fund), 71-82.



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