



INTER-AMERICAN BOARD OF AGRICULTURE

Eleventh Regular Meeting
Punta Cana, Dominican Republic
26-29 November 2001

STATUS OF AND OUTLOOK FOR AGRICULTURE AND RURAL DEVELOPMENT

IICA/JIA/Doc.252(01)
10 October 2001
Original: Spanish

During the last two decades...
dominated by the two...

The document "Status of and Outlook for Agriculture and Rural Development" will be sent shortly.

The Executive Summary of the document is included herewith.

The effects of the financial...
of America, the European...
prices of agricultural commodities...
poverty in Latin America...
circumstances of this region.

It is impossible to underestimate...
of America on September 11, 2...
estimate. Even though it is...
the United States may rethink...
they are conducted, deciding...
coordination of actions in...
of technical cooperation and...
investment - and give rise to...
movement of goods, services and...

International conditions are also...
outstanding features are: increase...
high - also added, the...
internationalization of...
which is due in part to a...
expansive of demand, non-existence...
the concerns and preferences of...
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The linear technological models...
development and modernization...
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EXECUTIVE SUMMARY

1. During the last two decades of the twentieth century, economic reforms were dominated by the twelve rules of the Washington Consensus, which called for the liberalization, deregulation and privatization of economies, as well as the maintenance of a stable macroeconomic environment, as a means of ensuring efficient national growth. These processes dovetailed with and contributed to two prevailing mega-trends: globalization and trade opening.
2. The effects of the financial crises and the economic slowdowns in the United States of America, the European Union and Japan added to the crisis in the international prices of agricultural commodities, and to the persistence, and even aggravation, of poverty in Latin America and the Caribbean (LAC), paint a gloomy picture for the economies of this region.
3. It is impossible to understate the impact the terrorists attacks against the United States of America on September 11, 2001 will have around the globe, and in LAC, in particular. Even though it is too early to anticipate what may happen in the future, the United States may rethink its priorities in terms of international relations and how they are conducted, deciding to place special emphasis on, for example, the coordination of actions to combat terrorism. This could affect the focus and volume of technical cooperation and the flows of capital –especially direct foreign investment– and give rise to the imposition of restrictions on the international movement of goods, services and persons.
4. International conditions are also reflected in the agrifood markets, whose most outstanding features are: increased production of processed goods and products with high value added, the vertical and horizontal integration of industry, the internationalization of same, and the subsequent trade via intra-firm transactions, which is due in part to a growing oligopolization of these markets. From the perspective of demand, non-economic factors are taking on new importance, such as the concerns and preferences of consumers for products that are easily prepared, highly nutritional, produced and prepared in such a way as to ensure food safety, and produced in environmentally friendly fashion.
5. The linear technological models traditionally used in agriculture have been key to its development and modernization. However, today agriculture faces the inflexibility of the public setting in which they operate, the focus the conditions of supply, and, in the case of LAC, financial restrictions. Today, technological developments are characterized by the way in which research is conducted and technology is generated, as well as by their impact on production and productivity in the agrifood sector. For example, the agrobiotechnologies are being produced mostly by private firms in developed countries, and which are associated, more than ever before, with the ownership of knowledge. This new paradigm, which is characterized by the way in which knowledge is generated, disseminated and carried to the market, is known as "technological innovation."

6. Agriculture and other activities carried out in the rural milieu are closely linked to the environment and the management of natural resources. However, the absence of a systemic vision covering soil, water, flora, fauna and biodiversity—a critical factor in several LAC countries—is reflected in steady deforestation, the extreme vulnerability of water sources, accelerated desertification and climate change, and ecologically fragile zones that are exposed, more and more frequently, to disastrous events such as hurricanes, floods and droughts.
7. State-wide economic reforms and sectoral reforms have contributed to the construction of a new institutional framework at different levels: i) supranational, which includes the mandates and guidelines issued by the intergovernmental organizations, and those derived from Inter-American summits process; ii) national, which takes into consideration changes in the roles played by public and private actors, how they relate to one another, and even the way they work; and iii) sectoral, as in the case of the agrifood sector, where it is necessary to redefine the roles assigned to the ministries of agriculture, and how they interact with other public and private actors and civil society
8. The concept of agriculture and the rural milieu, and the links between the two, has evolved in recent years. Today, the greater agriculture is defined by a systemic vision that clarifies the complexity of agricultural systems that operate in rural areas and are organized into agrifood chains. This systemic vision also makes it possible to evaluate relations between the agrifood systems and other sectors of the economy and society.
9. The concept of the new rurality is based on a reading of the current rural scenario in the Americas, and is territorial in scope. In other words, it recognizes the value of the rural milieu and its inhabitants, the present rural-urban continuum, the challenge of building or re-building the rural fabric, and the organization of social capital, as strategic elements for re-directing the development model. This new vision of what is "rural" promotes the strengthening and development of democratic processes; the political, social, cultural and economic participation of the population (men, women, youths and ethnic groups); and the elimination of poverty.
10. The change from the traditional vision of agriculture to a broader and systemic concept that embraces new stakeholders, processes and products, new approaches to interaction between agriculture and the rural milieu and the profound changes that have taken place in the setting, has substantially altered the characteristics and relative importance of the basic definition of the traditional concept of agriculture, which has been defined by production. Five factors have been identified as being essential to the development of agriculture, and have been called the *cornerstones of the greater agriculture*. They are: i) the environment and natural resources, which are essential for production, health and life itself; ii) science and technology, as elements that promote the development and economic growth of humanity; iii) human capital, which is associated with nature, the economy and a geographic area; iv) information and knowledge, as new assets of production; and v) the political-institutional setting, which allows for the articulation of these factors.

11. Given the great diversity and heterogeneity of agricultural and rural conditions in the countries of this region, the performance of agriculture and the rural milieu in the Americas is complex. In fact, it is difficult to draw general conclusions that can be applied to economies of different sizes, to agricultural sectors of varying relative importance vis-à-vis other sectors, or to rural populations whose importance varies. The situation becomes even more complicated if we take into consideration the largest and most developed countries of North America. Including them renders statistical averages and comparisons of indicators almost useless, unless they are presented merely for reference purposes.
12. Agricultural production in the region has been growing, but at a slower pace than the overall product; as a result, the relative share of agriculture to gross domestic product (GDP) has declined. The growth in agricultural output has been due, basically, to increased productivity per worker, although on average this is still low when compared with that of developed countries.
13. LAC continues to be a net food-exporting region, even though some of the countries are net importers. However, analyses of the competitiveness of the region's agricultural exports show a decline in comparative advantages in the international market. Analyses of the inclusion of technical advances into production show that only a few crops, many of them basis foods, have increased productivity due to technical change. For most crops, changes in output have resulted from increases in the area under cultivation.
14. In terms of food security, the region is in a favorable position, although five countries (Haiti, Bahamas, Dominican Republic, Grenada and Nicaragua) are vulnerable in terms of in access to and availability of food for their populations.
15. Although the region can report considerable progress in the area of agricultural health and food safety, problems persist in the development of the necessary institutional, regulatory and technological frameworks. In addition, the incidence and prevalence of diseases and pests, such as foot-and-mouth disease, pink mealybug and fruit flies, which affect production activities of great economic importance for the region, underscore the importance of strengthening agricultural health and food safety systems in LAC.
16. In social terms, rural poverty persists, and is deepening. The crises in the institutional framework for rural development, and declining investments in the social sector, are two of the causes of a decline in living conditions in rural areas and of the ineffectiveness of programs implemented to combat rural poverty.

17. As regards natural resources and sustainable development, the region is undergoing rapid urbanization, which is aggravated by the destructive and contaminating practices of certain production systems, which are causing more and more environmental problems, increasing vulnerability to severe climatic events and adding to the degradation of soils and ecosystems. Such practices may, in the near future, cause shortages of a resource as indispensable as water.
18. An analysis of the institutional framework for agriculture in the region shows that the ministries of agriculture no longer exert the same influence they once did. Several factors have given rise to this situation: i) the weakening of sectoral policies; ii) the lack of articulation among support systems (research, extension, marketing, etc.); iii) reforms of the State apparatus, which have reduced the number of functions assigned to, and the size of, the ministries of agriculture; iv) the weakness of private sector organizations; and v) tariff reduction or elimination, as a result of trade opening.
19. The institutional framework for rural development, which in many cases is limited to the ministries of agriculture, is also becoming weaker as problems related to equity, governance and the sound use of natural resources become more pressing. In many countries of the region, less is being invested in social programs in rural areas, which directly affects the countryside's capacity for modernization and standard of living and promotes rural-urban migration.
20. The speed with which the private sector has assumed functions in the markets that were previously of the public domain, such as the marketing of products, contrasts with slow progress that has been made in terms of the private management of public policies. This has generated institutional vacuums in different fields including rural funding, basic research and technology transfer to those with limited capacity to buy such services because of low incomes, geographic restrictions or a lack of information.
21. Two cases of institutional problems of agriculture in LAC are examined. The first concerns the limited and inadequate capacity of the ministries of agriculture to engage in international agricultural negotiations, although they are in the best position to bring to the negotiating table the concerns of stakeholders directly affected by the application of any agreements that may be signed. The second is the reduction of public investment in agricultural research, an area in which attempts have been made, with little success, to encourage private investment. This situation is serious because most public research institutes are operating on a shoestring, and efforts to replace researchers have been mostly unsuccessful. Evidence of this situation is a significant decline in the capacity of the region to generate endogenous or local knowledge that is applicable to commercial agriculture, and in meeting the technological needs of small- and medium-scale producers.

22. The first generation of economic and State reforms in LAC modified significantly the institutional framework developed in preceding decades, especially the one characterized by an "intervening" State associated with a development model whose growth was based on import substitution. New social and production conditions have burst into this institutional framework, and no new management model has not been adopted, producing as a result a "remnant State." With differing degrees of intensity, reforms have been undertaken in an attempt to adapt the remnants of the earlier institutional framework to the new requirements, with both satisfactory and unsatisfactory results, for both those implementing the reforms and those who will potentially benefit from them.
23. The greatest challenge facing LAC is the need to build a new institutional framework for agriculture and the rural milieu, one that includes the wider universe of stakeholders involved in the greater agriculture, and the new relationships established between this agriculture and the rural milieu in which it operates. It is in this context that people, natural resources, non-agricultural activities and many economic, social, political and cultural relations, subject to national and international influences, converge.
24. Several reasons for a new institutional approach are: i) the new stakeholders and types of public-private organization; ii) the management of public policies, and iii) the need to reposition agriculture and rural development in political structures.
25. The construction of a new institutional framework to meet the challenges of agriculture and rural development requires the incorporation of non-agricultural and non-rural considerations, including: citizens' participation in decision making, the promotion of more effective State action; legal security, access to land, effective management of natural resources and the environment, and necessary support services, such as financing and rural investment.
26. Public policies should stem from a national agenda and result from a process that builds consensus among the different relevant organizations and stakeholders, and among nations at the international and inter-American levels. In particular, the Inter-American Summits process is moving toward hemispheric integration, promoting the consolidation of democracies, economic and trade integration, the eradication of poverty and environmental conservation. These principles are mandatory for all the countries of the Americas, not only at under formal commitments, but also in the spirit of a society working toward more equitable development.
27. Agriculture and rural development have been recognized as a strategic sector of the socioeconomic system of the Americas. Therefore, all these elements must be taken into account when formulating public policies within the framework of the new institutional framework for agriculture and the rural milieu.
28. Efforts to boost agricultural competitiveness must address challenges on different fronts. Strategies are needed for modernizing the countries' agriculture, as are sectoral

policies that are consistent with macroeconomic policies and that recognize the heterogeneous nature of the production structure of agriculture and the need to include the different links of the production chains. Policies to promote competitiveness that are worthy of special mention because of their positive impact on improving the standard of living in the countryside are those that foster technological development, agricultural health, public health, market development, agribusiness, effective participation in trade negotiations, and the development of an environmentally sound agriculture and, closely linked to this, clean agricultural production.

29. Regarding policies for improving rural standards of living, the modern approach to rural development leaves behind past approaches that focused on assistance and compensation, and is conceived as a strategy for growth with equity and efficiency, intended to do away with mechanisms that have excluded the rural population from economic and political development, and which have prevented them from participating in the current development model.
30. The comprehensive vision of rural development is beginning to offer renewed possibilities for social and political management in which the international dimension (regional or global) plays a determining role. In this regard, the search for agricultural competitiveness must not be ignored, as it will also contribute to improving living conditions of rural societies. To achieve this, policies are needed to combat rural poverty by ensuring food security, upgrade the capacities for management and self-management in public and private organizations, promote reforms in education and training, and foster the sustainable management of natural resources.
31. The last chapter of this report offers thoughts on areas of action for international technical cooperation, stemming from the great challenges identified in Chapter IV, and which, in particular, can be used to orient the work program of the Inter-American Institute for Cooperation on Agriculture (IICA).
32. The challenge of building a new institutional framework for agriculture and rural development in LAC is a daunting task that demands levels of international technical cooperation that exceed the capabilities of IICA and of any cooperation agency considered individually. Therefore, it is necessary for cooperation and funding agencies to specify the fields and activities in which they should focus their efforts and resources and identify areas and methods for inter-institutional cooperation, similar to the effort IICA has been engaged in to define strategies and actions for combating rural poverty.



INTER-AMERICAN BOARD OF AGRICULTURE

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CURRENT SITUATION IN AGRICULTURE AND RURAL DEVELOPMENT

Addendum to Document
IICA/JIA/Doc.252(01)

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IICA**

ACRONYMS.....

LIST OF FIGURES, TABLES.....

LIST OF INSERTS.....

FOREWORD.....

EXECUTIVE SUMMARY.....

INTRODUCTION.....

I. THE INTERNATIONAL
DEVELOPMENT.....

*“Status of and Outlook for Agriculture
and Rural Development”*

Agriculture.....

The new technologies.....

Environmental concerns.....

New institutional arrangements.....

II. CONCEPTUAL FRAMEWORK
RURAL DEVELOPMENT.....

Concept and scope of expanded agriculture.....

Rural milieu and new rurality.....

The components of expanded agriculture.....

Environment and natural resources.....

Science and technology.....

Human capital.....

Information and knowledge.....

Policies and institutional arrangements.....

III. PERFORMANCE OF AGRICULTURE
IN THE AMERICAS.....

Production and trade-related.....

*Report submitted to the Inter-American Board of Agriculture
Dominican Republic
November 2001*

CONTENTS

	Page
CONTENTS.....	i
ACRONYMS.....	v
LIST OF FIGURES, TABLES AND ANNEXES	vii
LIST OF INSERTS	ix
FOREWORD	1
EXECUTIVE SUMMARY	3
INTRODUCTION.....	9
 I. THE INTERNATIONAL CONTEXT OF AGRIFOOD AND RURAL DEVELOPMENT	 11
Agrifood markets.....	12
The new technological paradigm.....	13
Environmental concerns.....	14
New institutional arrangements.....	15
 II. CONCEPTUAL FRAMEWORK OF EXPANDED AGRICULTURE AND RURAL DEVELOPMENT IN THE AMERICAS	 17
Concept and scope of expanded agriculture.....	17
Rural milieu and new rurality.....	17
The cornerstones of expanded agriculture.....	17
<i>Environment and natural resources</i>	19
<i>Science and technology</i>	19
<i>Human capital</i>	20
<i>Information and knowledge</i>	20
<i>Policies and institutional framework</i>	21
 III. PERFORMANCE OF AGRICULTURE AND RURAL DEVELOPMENT IN THE AMERICAS	 23
Production and trade-related considerations.....	24

<i>Overall performance Production growth and share of agriculture in the gross domestic product (GDP)</i>	24
<i>Worker productivity</i>	24
<i>Foreign trade</i>	26
<i>Revealed comparative advantages</i>	27
<i>Food Security</i>	28
<i>Technology, production and productivity</i>	30
<i>Agricultural health and food safety</i>	32
<i>Animal health</i>	32
<i>Plant protection</i>	33
<i>Food safety</i>	33
<i>Status of AHFSSs</i>	34
<i>Social and human considerations</i>	35
<i>Poverty and quality of life</i>	35
<i>Agricultural and non-agricultural rural employment</i>	36
<i>Education</i>	36
<i>Ecological and environmental considerations</i>	37
<i>Use of soil and water resources</i>	37
<i>The environmental impact of agriculture</i>	38
<i>Political and institutional considerations</i>	38
<i>Changes in reforms</i>	38
<i>Agricultural negotiations and the ministries of agriculture</i>	38
<i>Institutional aspects of technology</i>	39
IV. CHALLENGES FOR AGRICULTURE AND RURAL DEVELOPMENT AND PRIORITY FIELDS FOR PUBLIC POLICY	41
<i>The challenge of developing a new institutional framework</i>	41
<i>New actors and methods of organization</i>	42
<i>Management of public policy</i>	43
<i>Repositioning of agriculture and rural development in the political structures</i>	43
<i>The necessary context for a new institutional framework</i>	44
<i>Priority areas for public policymaking</i>	46
<i>Integral policies to improve competitiveness</i>	46
<i>Technology development</i>	47
<i>Agricultural and public health</i>	47
<i>Development of markets and promotion of agribusiness</i>	48
<i>Trade negotiations</i>	48
<i>Agriculture and the environment</i>	49
<i>Clean agricultural production</i>	49
<i>Integral policies to improve living standards in the rural milieu</i>	50
<i>Combating rural poverty</i>	50
<i>Food security</i>	51
<i>Management capacity</i>	51
<i>Reforms in education and training</i>	51
<i>Natural resources</i>	52

V. IMPLICATIONS FOR IICA'S TECHNICAL COOPERATION AGENDA	55
<i>Building a new institutional framework</i>	56
<i>Support to the process of repositioning agriculture and rural development</i>	56
<i>Support for the reorientation of institutional reform</i>	56
<i>Incorporating the approaches of the expanded agricultural sector and the new rurality</i> ..	57
<i>Modernizing the ministries of agriculture</i>	57
<i>Improving the management of public policies</i>	58
<i>Fostering the empowerment of private organizations</i>	58
<i>Incorporating the new international institutional framework</i>	58
<i>Improving the effectiveness of services</i>	60
<i>Supporting decentralization and participation by civil society</i>	60
<i>IICA's actions in high-priority areas of public policy</i>	60
<i>Improvement of the competitiveness of expanded agriculture</i>	61
<i>Policies to promote competitiveness in agrifood chains</i>	61
<i>Promoting market access</i>	61
<i>Developing domestic markets</i>	62
<i>Furthering agribusiness</i>	62
<i>Innovation: a key factor in competitiveness</i>	62
<i>Seeking additional resources for agricultural research</i>	62
<i>Producing with clean technologies</i>	63
<i>Ensuring agricultural and public health</i>	63
<i>Investing in human resources in expanded agriculture</i>	64
<i>Promoting information as a strategic tool</i>	64
<i>Improving the standard of living in the rural milieu</i>	65
<i>Integrated policies to improve the standard of living in the rural milieu</i>	65
<i>Keeping track of food security</i>	66
<i>Providing sustainable approaches for the management of natural resources</i>	67
<i>Developing management capacities in the rural milieu</i>	68
<i>Promoting the new rural institutional framework</i>	68
ANNEX	69
Annex 1: Toward a new Institutional Framework for AGRI-FOOD and Rural Development	71
Annex 2: The Cornerstones of the Expanded Agricultural Sector and the Rural Milieu: A New Function of Production	73
Annex 3: Revealed comparative advantage (RCA) Index for AGRI-FOOD trade in the Americas	75
Annex 4: Food Security: Access to and Availability of Food in the Countries.	79

ACRONYMS

AHFS	Agricultural health and food safety
AHFSS	Agricultural health and food safety systems
CAC	Central American Agricultural Council
CATIE	Tropical Agriculture Research and Higher Education Center
CGIAR	Consultative Group on International Agricultural Research
CIDER	Inter-American Center for Rural Development
ECLAC	Economic Commission for Latin America and the Caribbean
FAO	United Nations Food and Agriculture Organization
FASA	Andean Agricultural Health Forum
FONTAGRO	Regional Agricultural Technology Fund
FORAGRO	Regional Forum on Agricultural Research and Technology Development
FTAA	Free Trade Area of the Americas
GAP	Good agricultural practices
GDP	Gross domestic product
GINA	Informal Consultative Group of Agricultural Negotiators of the Americas
IABA	Inter-American Board of Agriculture
IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
IICA	Inter-American Institute for Cooperation on Agriculture
INFOAGRO	Information System for Agriculture and Rural Development
IPPC	International Plant Protection Convention
ISO	International Organization for Standardization
LAC	Latin America and the Caribbean
MERCOSUR	Southern Common Market
NGO	Non-governmental organization
NRE	Non-agricultural rural employment
OAS	Organization of American States
OIE	World Organization for Animal Health
PROCI_s	Cooperative agricultural research and technology transfer programs
RCA	Revealed comparative advantage
UNESCO	United Nations Educational, Scientific and Cultural Organization
WTO	World Trade Organization

LIST OF FIGURES, TABLES AND ANNEXES

		Page
Figure 1	Evolution of worker productivity in agriculture worker in LAC	25
Figure 2	Technological profile of economically important products in LAC	30
Table 1	The Americas: Food Trade Balance, 1986-1999	27
Table 2	Revealed competitiveness of agrifood trade, 1988-1999	29
Table 3	Countries with a per hectare decline in yields, for products of economic importance in LAC	31
Table 4	Variables to be taken into account in the institutional, regulatory and technological frameworks of the AHFSSs	34

LIST OF INSERTS

Insert		Page
1	On the threshold of a new international order	12
2	Importance of "non-economic" factors in the world meat market	13
3	Spatial distribution of natural resources	14
4	Implications of the international institutional framework for agrifood trade	15
5	Trends in investments in research	19
6	Investment for agricultural health	32
7	New trends in agrifood marketing	42
8	A country vision in reaching agreement on policies	43
9	Competitiveness: the factors of the macroeconomic setting	46
10	Canadian Food Inspection Agency: an institutional model for agricultural health	47
11	Food surpluses do not guarantee food security	51
12	Strategies in progress to improve agricultural education	52
13	Environmental services and the trade in emissions	53

FOREWORD

The Inter-American Board of Agriculture (IABA), which is the governing body of the Inter-American Institute for Cooperation on Agriculture (IICA), is recognized as *"the primary ministerial forum within the Organization of American State (OAS) for analyzing and building consensus on policies and strategic priorities for the improvement of agriculture and rural life."*¹ Also, the Rules of Procedure of the IABA² state that the agenda of its regular meetings shall contain, at least, *"an examination of the current status of agriculture and rural development in Latin America and the Caribbean in light of the reports prepared by the General Directorate to emphasize matters requiring consideration by the Board, or that may be the subject of recommendations to the Members States or to the General Directorate."*

The Heads of State and Government of the Americas, meeting at the Third Summit of the Americas³, recognized *"the fundamental importance of agriculture as a way of life for millions of rural families of the Hemisphere as well as the role it plays in the creation of prosperity as a strategic sector in our socio-economic system and taking note of the importance of developing its potential in a manner compatible with sustainable development."* It is important to point out that this is the first time that agriculture and rural life have been recognized, in a hemispheric summit, as strategic elements in the integral development of the countries. This has provided a political forum within the inter-American summits process, in which the countries, regions and specialized agencies such as IICA can strengthen their efforts to develop agriculture and rural life.

The upcoming Eleventh Regular Meeting of the Inter-American Board of Agriculture⁴ will provide the framework for celebrating the twentieth anniversary of this forum of ministers of agriculture and leaders of the community of agriculture and rural life of the Americas, at a time when important changes are taking place around the globe, changes which undoubtedly affect all aspects of agriculture and rural development in the Americas.

It is in this context that the Director General of IICA hereby submits to the IABA the report *"Status of and Outlook for Agriculture and Rural Development."*

*Carlos Aquino G.
Director General*

¹ Resolution 1728 of the General Assembly of the Organization of American States (OAS), June 5, 2000

² Chapter I, Art. 3 and Chapter IV, Art. 23 d

³ Third Summit of the Americas, April 2001, Declaration of Quebec City and Plan of Action (Section 10: Agricultural Management and Rural Development)

⁴ Punta Cana, Dominican Republic, November 26-29, 2001

EXECUTIVE SUMMARY

1. During the last two decades of the twentieth century, economic reforms were dominated by the twelve rules of the Washington Consensus, which called for the liberalization, deregulation and privatization of economies, as well as the maintenance of a stable macroeconomic environment, as a means of ensuring efficient national growth. These processes dovetailed with and contributed to two prevailing mega-trends: globalization and trade opening.
2. The effects of the financial crises and the economic slowdowns in the United States of America, the European Union and Japan added to the crisis in the international prices of agricultural commodities, and to the persistence, and even aggravation, of poverty in Latin America and the Caribbean (LAC), paint a gloomy picture for the economies of this region.
3. It is impossible to understate the impact the terrorists attacks against the United States of America on September 11, 2001 will have around the globe, and in LAC, in particular. Even though it is too early to anticipate what may happen in the future, the United States may rethink its priorities in terms of international relations and how they are conducted, deciding to place special emphasis on, for example, the coordination of actions to combat terrorism. This could affect the focus and volume of technical cooperation and the flows of capital --especially direct foreign investment-- and give rise to the imposition of restrictions on the international movement of goods, services and persons.
4. International conditions are also reflected in the agrifood markets, whose most outstanding features are: increased production of processed goods and products with high value added, the vertical and horizontal integration of industry, the internationalization of same, and the subsequent trade via intra-firm transactions, which is due in part to a growing oligopolization of these markets. From the perspective of demand, non-economic factors are taking on new importance, such as the concerns and preferences of consumers for products that are easily prepared, highly nutritional, produced and prepared in such a way as to ensure food safety, and produced in environmentally friendly fashion.
5. The linear technological models traditionally used in agriculture have been key to its development and modernization. However, today agriculture faces the inflexibility of the public setting in which they operate, the focus the conditions of supply, and, in the case of LAC, financial restrictions. Today, technological developments are characterized by the way in which research is conducted and technology is generated, as well as by their impact on production and productivity in the agrifood sector. For example, the agrobiotechnologies are being produced mostly by private firms in developed countries, and which are associated, more than ever before, with the ownership of knowledge. This new paradigm, which is characterized by the way in which knowledge is generated, disseminated and carried to the market, is known as "technological innovation."

6. Agriculture and other activities carried out in the rural milieu are closely linked to the environment and the management of natural resources. However, the absence of a systemic vision covering soil, water, flora, fauna and biodiversity --a critical factor in several LAC countries-- is reflected in steady deforestation, the extreme vulnerability of water sources, accelerated desertification and climate change, and ecologically fragile zones that are exposed more and more frequently, to disastrous events such as hurricanes, floods and droughts.
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8. The concept of agriculture and the rural milieu, and the links between the two, has evolved in recent years. Today, the greater agriculture is defined by a systemic vision that clarifies the complexity of agricultural systems that operate in rural areas and are organized into agrifood chains. This systemic vision also makes it possible to evaluate relations between the agrifood systems and other sectors of the economy and society.
9. The concept of the new rurality is based on a reading of the current rural scenario in the Americas, and is territorial in scope. In other words, it recognizes the value of the rural milieu and its inhabitants, the present rural-urban continuum, the challenge of building or re-building the rural fabric, and the organization of social capital, as strategic elements for re-directing the development model. This new vision of what is "rural" promotes the strengthening and development of democratic processes; the political, social, cultural and economic participation of the population (men, women, youths and ethnic groups); and the elimination of poverty.
10. The change from the traditional vision of agriculture to a broader and systemic concept that embraces new stakeholders, processes and products, new approaches to interaction between agriculture and the rural milieu and the profound changes that have taken place in the setting, has substantially altered the characteristics and relative importance of the basic definition of the traditional concept of agriculture, which has been defined by production. Five factors have been identified as being essential to the development of agriculture, and have been called the *cornerstones of the greater agriculture*. They are: i) the environment and natural resources, which are essential for production, health and life itself; ii) science and technology, as elements that promote the development and economic growth of humanity; iii) human capital, which is associated with nature, the economy and a geographic area; iv) information and knowledge, as new assets of production; and v) the political-institutional setting, which allows for the articulation of these factors.
11. Given the great diversity and heterogeneity of agricultural and rural conditions in the countries of this region, the performance of agriculture and the rural milieu in the Americas is complex. In fact, it is difficult to draw general conclusions that can be applied to economies of different sizes, to agricultural sectors of varying relative importance vis-à-vis other sectors, or to rural populations whose importance varies. The situation becomes even more complicated if we take into consideration the largest and most developed countries of North America. Including them renders statistical averages and comparisons of indicators almost useless, unless they are presented merely for reference purposes.
12. Agricultural production in the region has been growing, but at a slower pace than the overall product; as a result, the relative share of agriculture to gross domestic product (GDP) has declined. The growth in agricultural output has been due, basically, to increased productivity per worker, although on average this is still low when compared with that of developed countries.
13. LAC continues to be a net food-exporting region, even though some of the countries are net importers. However, analyses of the competitiveness of the region's agricultural exports show a decline in comparative advantages in the international market. Analyses of the inclusion of technical advances into production show that only a few crops, many of them basis foods, have increased productivity due to technical change. For most crops, changes in output have resulted from increases in the area under cultivation.
14. In terms of food security, the region is in a favorable position, although five countries (Haiti, Bahamas, Dominican Republic, Grenada and Nicaragua) are vulnerable in terms of in access to and availability of food for their populations.
15. Although the region can report considerable progress in the area of agricultural health and food safety, problems persist in the development of the necessary institutional, regulatory and technological frameworks. In addition, the incidence and prevalence of diseases and pests, such as foot-and-mouth disease, pink mealybug and fruit flies, which affect production activities of great economic importance for the region, underscore the importance of strengthening agricultural health and food safety systems in LAC.
16. In social terms, rural poverty persists, and is deepening. The crises in the institutional framework for rural development, and declining investments in the social sector, are two of the causes of a decline in living conditions in rural areas and of the ineffectiveness of programs implemented to combat rural poverty.
17. As regards natural resources and sustainable development, the region is undergoing rapid urbanization, which is aggravated by the destructive and contaminating practices of certain production systems, which are causing more and more environmental problems, increasing vulnerability to severe climatic events and adding to the degradation of soils and ecosystems. Such practices may, in the near future, cause shortages of a resource as indispensable as water.

18. An analysis of the institutional framework for agriculture in the region shows that the ministries of agriculture no longer exert the same influence they once did. Several factors have given rise to this situation: i) the weakening of sectoral policies; ii) the lack of articulation among support systems (research, extension, marketing, etc.); iii) reforms of the State apparatus, which have reduced the number of functions assigned to, and the size of, the ministries of agriculture; iv) the weakness of private sector organizations; and v) tariff reduction or elimination, as a result of trade opening.
19. The institutional framework for rural development, which in many cases is limited to the ministries of agriculture, is also becoming weaker as problems related to equity, governance and the sound use of natural resources become more pressing. In many countries of the region, less is being invested in social programs in rural areas, which directly affects the countryside's capacity for modernization and standard of living and promotes rural-urban migration.
20. The speed with which the private sector has assumed functions in the markets that were previously of the public domain, such as the marketing of products, contrasts with slow progress that has been made in terms of the private management of public policies. This has generated institutional vacuums in different fields including rural funding, basic research and technology transfer to those with limited capacity to buy such services because of low incomes, geographic restrictions or a lack of information.
21. Two cases of institutional problems of agriculture in LAC are examined. The first concerns the limited and inadequate capacity of the ministries of agriculture to engage in international agricultural negotiations, although they are in the best position to bring to the negotiating table the concerns of stakeholders directly affected by the application of any agreements that may be signed. The second is the reduction of public investment in agricultural research, an area in which attempts have been made, with little success, to encourage private investment. This situation is serious because most public research institutes are operating on a shoestring, and efforts to replace researchers have been mostly unsuccessful. Evidence of this situation is a significant decline in the capacity of the region to generate endogenous or local knowledge that is applicable to commercial agriculture, and in meeting the technological needs of small- and medium-scale producers.
22. The first generation of economic and State reforms in LAC modified significantly the institutional framework developed in preceding decades, especially the one characterized by an "intervening" State associated with a development model whose growth was based on import substitution. New social and production conditions have burst into this institutional framework and no new management model has not been adopted, producing as a result a "remnant State." With differing degrees of intensity, reforms have been undertaken in an attempt to adapt the remnants of the earlier institutional framework to the new requirements, with both satisfactory and unsatisfactory results, for both those implementing the reforms and those who will potentially benefit from them.
23. The greatest challenge facing LAC is the need to build a new institutional framework for agriculture and the rural milieu, one that includes the wider universe of stakeholders involved in the greater agriculture, and the new relationships established between this agriculture and the

rural milieu in which it operates. It is in this context that people, natural resources, non-agricultural activities and many economic, social, political and cultural relations, subject to national and international influences, converge.

24. Several reasons for a new institutional approach are: i) the new stakeholders and types of public-private organization; ii) the management of public policies, and iii) the need to reposition agriculture and rural development in political structures.
25. The construction of a new institutional framework to meet the challenges of agriculture and rural development requires the incorporation of non-agricultural and non-rural considerations, including: citizens' participation in decision making, the promotion of more effective State action; legal security, access to land, effective management of natural resources and the environment, and necessary support services, such as financing and rural investment.
26. Public policies should stem from a national agenda and result from a process that builds consensus among the different relevant organizations and stakeholders, and among nations at the international and inter-American levels. In particular, the Inter-American Summits process is moving toward hemispheric integration, promoting the consolidation of democracies, economic and trade integration, the eradication of poverty and environmental conservation. These principles are mandatory for all the countries of the Americas, not only at under formal commitments, but also in the spirit of a society working toward more equitable development.
27. Agriculture and rural development have been recognized as a strategic sector of the socioeconomic system of the Americas. Therefore, all these elements must be taken into account when formulating public policies within the framework of the new institutional framework for agriculture and the rural milieu.
28. Efforts to boost agricultural competitiveness must address challenges on different fronts. Strategies are needed for modernizing the countries' agriculture, as are sectoral policies that are consistent with macroeconomic policies and that recognize the heterogeneous nature of the production structure of agriculture and the need to include the different links of the production chains. Policies to promote competitiveness that are worthy of special mention because of their positive impact on improving the standard of living in the countryside are those that foster technological development, agricultural health, public health, market development, agribusiness, effective participation in trade negotiations, and the development of an environmentally sound agriculture and, closely linked to this, clean agricultural production.
29. Regarding policies for improving rural standards of living, the modern approach to rural development leaves behind past approaches that focused on assistance and compensation, and is conceived as a strategy for growth with equity and efficiency, intended to do away with mechanisms that have excluded the rural population from economic and political development, and which have prevented them from participating in the current development model.
30. The comprehensive vision of rural development is beginning to offer renewed possibilities for social and political management in which the international dimension (regional or global) plays a determining role. In this regard, the search for agricultural competitiveness must not be ignored, as it will also contribute to improving living conditions of rural societies. To achieve this,

policies are needed to combat rural poverty by ensuring food security, upgrade the capacities for management and self-management in public and private organizations, promote reforms in education and training, and foster the sustainable management of natural resources.

31. The last chapter of this report offers thoughts on areas of action for international technical cooperation, stemming from the great challenges identified in Chapter IV, and which, in particular, can be used to orient the work program of the Inter-American Institute for Cooperation on Agriculture (IICA).
32. The challenge of building a new institutional framework for agriculture and rural development in LAC is a daunting task that demands levels of international technical cooperation that exceed the capabilities of IICA and of any cooperation agency considered individually. Therefore, it is necessary for cooperation and funding agencies to specify the fields and activities in which they should focus their efforts and resources and identify areas and methods for inter-institutional cooperation, similar to the effort IICA has been engaged in to define strategies and actions for combating rural poverty.

INTRODUCTION

The purpose of this report is to analyze the status of agriculture and rural development in Latin America and the Caribbean (LAC) in the years leading up to the beginning of the twenty-first century. It also addresses the challenges and opportunities that lie ahead for countries, governments and inter-American organizations, in terms of agriculture and rural development in the region, at a time of great change in the world.

The report is divided into four chapters. The first focuses on the conditions in the international context that affect agriculture and rural development, and analyzes the development of agrifood markets, the new technological paradigm, pressures stemming from environmental concerns, and the emergence of a new institutional framework in a context of globalization and trade liberalization.

In the second chapter, the conceptual framework of agriculture is defined on the basis of a comprehensive and systemic vision known as "*expanded agriculture*"; the elements that characterize and place rural development within a new concept of rurality are also explained. Based on this definition, an analysis is made of the factors or "cornerstones" that affect the development of expanded agriculture (natural resources as the basis of agrifood production and the development of communities, access to knowledge and technology, human capital and the organizations linked to agriculture and the rural milieu).

The third chapter examines the performance of agriculture and rural development with different indicators, which have been grouped into four categories: i) *production- and trade-related considerations*, analyzing the overall performance of the agrifood sector, food security (analyzed from the perspective of access to and availability of food), revealed comparative advantages, technology, agricultural health and food safety; ii) *social and human considerations*, focusing on current levels of poverty and its origins and consequences, as well as agricultural and non-agricultural employment in the rural milieu; iii) *ecological and environmental considerations*, presenting data on the use of soil and water resources that point to serious problems in some regions and countries of LAC, and iv) *political and institutional considerations*, analyzing and characterizing the principal changes effected as a result of institutional reforms in the agrifood sector and rural development, and drawing attention to certain areas not addressed in the economic and State reforms which have been undertaken in LAC.

Based on the above and the conditions in the international setting, the fourth chapter deals with the challenge of developing a *new institutional framework* for agriculture and rural development, which involves the recognition of new realities, new interlocutors and a growing participation of civil society in decision making. Reference is made to the desirable elements of a setting in which this new institutional framework should be promoted, including appropriate margins of governance, legal certainty, adjustments in legislation, access to land, and responsible management of natural resources. Also, certain priorities for the management of public policies are proposed.

The report concludes with a number of thoughts and proposals regarding an agenda for work throughout the Americas, in which inter-American cooperation can contribute to the countries' efforts to make agriculture more competitive and to improve living conditions in the rural milieu in LAC. The components of this report are explained in greater detail in Annex 1.

I. THE INTERNATIONAL CONTEXT OF AGRIFOOD AND RURAL DEVELOPMENT

For the last two decades of the twentieth century, economic policies were dominated by the twelve rules of the Washington Consensus. It was assumed that, as a result of liberalization, deregulation, privatization and the maintenance of a stable macroeconomic environment, private markets would provide resources for more efficient growth in the countries. These policies were also fostered a generation of positive feedback between two mega-trends prevailing during that time frame: globalization and trade opening.

There was criticism of the blind trust placed in the market, even at the highest levels of the multilateral organizations that supported the Washington Consensus. This was based on the evaluation of the processes, some of which were judged to be "excluding," and which placed undue emphasis on growth and gave little consideration to the economic and social aspects of development. The 1997 financial crisis in southeast Asia revealed the volatility of international financial flows, and created a ripple effect that had negative repercussions for what are known as "emerging markets, which include the countries of Latin America and the Caribbean.

When LAC was showing signs of recovery --primarily in the markets of the region most affected by the Asian and Russian financial crises-- two concurrent phenomena occurred that have contributed to the deterioration of macroeconomic indicators around the globe and are threatening the economic stability of the countries of the region.

First, the economies that have traditionally spurred growth around the world (the United States, the European Union and Japan) and the developing countries of Asia, have experienced an important slowdown in their growth rates, as well as a series of recessions that are curtailing the expansion of world trade and, therefore, the growth of extra-regional exports.⁵ This adverse effect must be added to a decline in the real prices of the region's principal export commodities.

The second phenomenon is an offshoot of the Asian crisis and is aggravated by investors' perception that the region's "emerging markets" involve greater risk, especially due to the recent crisis in Argentina and its possible spread to other nations. This has resulted in an increase in the cost of borrowing money, shorter payback periods for loans, irregular credit availability, and a possible contraction in the net transfer of external resources to the region.

This external macroeconomic context is beginning to have a negative effect on the possibilities for growth of the countries in the region, and to affect the equilibrium of domestic economies, whose adjustment in recent years has been complex. With the exception of inflation⁶, the principal indicators are showing signs of deterioration, casting a shadow on the perspectives for agriculture in LAC. Nonetheless, many experts are betting on a rapid recovery of the U.S. economy, and that the effects of this recovery will boost trade worldwide and, in particular, in the countries of the region, whose economies are closely linked to the dynamics of that economy.

⁵ Intra-regional trade has continued to grow, albeit at a slower pace

⁶ See: ECLAC. 2001. Situacion y Perspectivas: estudio economico de America Latina y el Caribe 2000-2001

In the social arena, the panorama is also not encouraging. Forty percent of the population in LAC lives in poverty; 17% in dire poverty. This situation is much more serious in rural areas, where poverty exceeds 50%, and dire poverty, 33%.

Insert 1
On the threshold of a new international order

This panorama may be altered significantly by an event that took place while this document was nearing completion: the terrorist attack against the political and financial heart of the United States. This event, which marks a milestone in the history of that country, will have repercussions on its economic performance and on its relations with other countries. The impact of this event on production and consumption in the United States and on its finances may delay the expected reactivation of the most important economy in the world. Such an economic downturn will affect the rest of the countries, especially the countries of the region with dollar-based economies, and whose trade is strongly linked to the U.S. economy.

Although it is too early to anticipate what may happen in the future, the U.S. may rethink its priorities in international relations and how these relations are conducted. For example, the coordination of actions to combat terrorism may affect the focus and volume of technical cooperation and capital flows --especially direct foreign investment-- and result in an imposition of restrictions on the international movement of goods, services and persons.

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Americas to develop new enterprises and expand their production base in order to meet the needs of growing markets with an increasing demand for food, and which will be possible provided the proper conditions exist.

Trade liberalization is moving forward within the framework of "open regionalism," which has been characterized by the signing of a multitude of free trade agreements and the consolidation of customs unions. The strengthening of the multilateral trade system, the establishment of the World Trade Organization (WTO), and the agreements signed under it, have enabled this process to move forward in line with the rules and disciplines of said body, but with a focus on bilateral and regional trade liberalization.

Agrifood markets

The performance of agrifood markets has also been affected by the two mega-trends. Some noteworthy features are the rapid growth of processed goods and products with high value added, the vertical and horizontal integration of industry, its internationalization and the subsequent increase in trade through intra-firm transactions. This has shortened agrifood chains, with implications for productivity and the reduction of marketing margins. Overall, this has given rise to new types of trade relations among participating stakeholders, as well as a growing presence of oligopolies in agrifood markets.

These effects on agriculture and the rural milieu are felt more rapidly and intensively in a setting of globalization and trade liberalization. Increased trade in goods, services and investments; a supply that must be constantly adjusted to changes in consumer preferences; technological developments and new types of relations among countries and organizations are some of the most important manifestations of these processes.

Globalization brings with it risks and opportunities. The risks stem from the fact that national governments have little leeway to establish controls or corrective mechanisms for modifying the undesirable economic, social and environmental effects of globalization. The opportunities derive from the new panorama of the global economy, which encourages the countries of the

From the perspective of demand, consumers are becoming more and more demanding, with individual interests and concerns. They prefer a wide variety of products that can be easily prepared, are of high quality and high nutritional value, are produced and prepared under conditions that ensure food safety throughout the production chain, and are produced with environmentally friendly methods.

Meeting these different requirements requires the application of technical norms and the strengthening of animal health, plant health and food safety systems, as well as those systems responsible for evaluating the appropriateness of and compliance with increasingly complex environmental regulations. This demonstrates the growing importance of "non-economic" factors in agrifood markets vis-à-vis traditional "economic" factors such as price and protection at the border.

The inclusion of agriculture in the WTO agreements, especially through the rules contained in the Agreement on Agriculture and the Agreement on the Application of Sanitary and Phytosanitary Measures, has contributed to increasing the use of "common rules" in international agricultural trade. This notwithstanding, the countries, in general, and the agricultural sector, in particular, must provide the conditions needed to tap existing opportunities and to meet the challenges posed by the development of agrifood markets.

The new technological paradigm

The linear technological models traditionally applied in agriculture are based on a process of science, research, and the validation and transfer of technology, understood as a continuum. While the contributions of this model to the modernization of agriculture have been key to its development, it has important limitations including its focus on supply, the inflexibility of the public arrangements under which it operates and, in the case of LAC, its financial constraints.

The most important aspects of modern technological developments are the way research is conducted and technology is generated, and how these impact on production and productivity in the agrifood sector. These developments stem from a scientific and technological revolution that makes intensive use of agricultural and non-agricultural knowledge. By way of example, the agrobiotechnologies are being produced primarily by private firms in developed countries and involve, more than ever before, property rights over knowledge.

In addition, there are new institutional actors, the State's functions are being rethought, the private sector, including agricultural producers, is playing a more active role, and it has become imperative to ensure the sustainable use of natural resources.

Technological innovation surpasses the traditional approach of technology generation and transfer and is defined as the capability of countries, sectors and enterprises to access knowledge, apply

Insert 2
Importance of "non-economic" factors in the world meat market

A study of meat demand shows that in the 1955-1979 period the relative importance of economic factors was 95% while that of non-economic factors was only 5%. During the 1990s, the importance of economic factors (price) fell to 68% and that of the non-economic factors (health, safety, traceability, animal welfare, environment, quality) climbed to 32%.

Journal of Agricultural Economics. Vol. 45, No. 3, 1995

it in production processes of the agrifood chain, and place its products on the market, which requires investments in information and knowledge. Innovation comes into play between demand and supply, and between the external setting and state regulations; it should not be limited to the area of technology but also apply to institutions, organizations and management.

In the LAC countries, the State's actions in the agrifood sector should foster the development of capabilities for innovation and at the same time continue to conduct research and transfer technology. In the medium and long terms, this can contribute to improving the sector's competitiveness as well as living conditions in rural areas, within a context of greater equity.

Environmental concerns

The environment is the foundation of life, agriculture and the activities carried out in rural areas. Global changes that affect the planet also affect agriculture and the rural milieu. In several LAC countries, the absence of a systemic vision that takes account of soil, water, flora, fauna and biodiversity resources is a serious shortcoming that is contributing to the deterioration of forests, the extreme vulnerability of water sources, the acceleration of desertification, and climatic changes in ecologically fragile zones that are subject, more and more frequently, to disastrous events including hurricanes, floods and droughts.

The LAC region has been affected by such events with growing frequency and severity. The damage caused by hurricanes, earthquakes, droughts, landslides, forest fires and floods, many of which are linked, has affected the social and production-related infrastructure of the countries and their pace of development, aggravating poverty levels and environmental problems.

The rapid increase in the demand for natural resources suggests that there will be local shortages of such resources in the future, especially due to the proximity of rural and urban areas and rapid urbanization processes.

Insert 3 Spatial distribution of natural resources

LAC is the richest region on Earth in terms of water availability: However, in some areas water shortages are the rule rather than the exception: northern Argentina, the Pacific coast (southern Ecuador, all of Peru and southern Chile), northeastern Brazil, northern Colombia, portions of the Pacific coast in Central America, Haiti and a significant portion of the Dominican Republic. Also, desertification poses a very serious threat in some areas. The island nations are in an even more delicate situation; this constrains their ability to solve problems related to shortages in and the deterioration of their natural resource base.

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New institutional arrangements

Insert 4 Implications of the international institutional framework for agrifood trade

The rules associated with the WTO agreements regulate, at the international level, different aspects of agricultural activity, including trade, agricultural health, food safety, other technical norms, and intellectual property rights. This framework is not static; it evolves periodically. In the case of agriculture, multilateral negotiations under the WTO will change the rules of the game for the prevailing institutional framework, as well as the way the rules are applied.

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The economic and sectoral reforms of the 1990s, combined with the conditions created by globalization and trade liberalization, have contributed to the development of a new institutional framework at the supranational, national and sectoral levels; this also applies to agriculture and the rural milieu.

At the international level, the products of the new supranational institutional framework are the consensual decisions taken by the international community which comprise binding legal frameworks for the countries that belong to intergovernmental organizations. A particular

example are the new rules of the game governing trade, health, environment and labor.

International and regional organizations for technical and financial cooperation are not immune to the need for institutional reform. In fact, they are promoting such reforms internally and in the countries, which has involved a rethinking of their agendas and their relations with other similar organizations, based on the new priorities defined by the countries. Some examples can be observed in areas such as policies, trade, environment, poverty reduction, rural development and funding.

In the Americas, the inter-American summits process⁷ is of considerable importance. As a result of the Summits, an agenda for the development of the countries of the Americas has been established, based on four principles: i) the preservation and strengthening of the community of democracies; ii) the promotion of prosperity through economic integration and free trade; iii) the eradication of poverty and discrimination; and iv) the guarantee of sustainable development and environmental conservation. The progress made to implement each of these principles, both at the hemispheric level and on the agenda of each country, reveals how the new organizational arrangements influence the existing institutional framework in the Americas.

At the national level, the countries of the region have significantly altered the roles played by public and private economic actors, how they relate to one another, and even how they work. State reforms produced a downsizing of the state apparatus, and involved processes of decentralization, deregulation and privatization.

In the agrifood sector, in particular, it is necessary to redefine the roles of the ministries of agriculture and how they interact with other public entities with which they share responsibility (i.e., trade, rural development and natural resource management). In LAC, institutional reforms have not always addressed the concerns of the most disadvantaged segments of the population, or of the sectors that have been affected by the speed and intensity of change. In this regard, the time is right to promote

⁷ First Summit of Heads of State and Government of the Americas (United States, 1994); Second Summit (Chile, 1998); Third Summit (Canada, 2001)

new ways for providing State services, or for the State to encourage actors in the private sector and civil society to provide them.

II. CONCEPTUAL FRAMEWORK OF EXPANDED AGRICULTURE AND RURAL DEVELOPMENT IN THE AMERICAS

Concept and scope of expanded agriculture

Our concept of agriculture, the rural milieu, and the linkages between them has evolved in recent years. In the past, agriculture was seen to be limited to the production of crops and animals in a given area. From this viewpoint, rural development was necessarily contingent on the modernization of agriculture and on the existence of favorable conditions in the sector.

In the 1990s, the concept of *expanded agriculture* emerged as a result of a long process of deliberation. With a systemic perspective, this concept makes it possible, first, to understand the complexity and importance of agricultural systems that operate in rural areas and are organized into agrifood chains. Secondly, it makes it possible to evaluate relations between agrifood systems and other sectors of the economy and society, inasmuch as a large part of the population lives in rural areas and depends upon both agricultural and non-agricultural activities.

Rural milieu and new rurality

The innovative concept of rurality is based on a reading of the new rural scenario in the Americas, and has a territorial perspective. It recognizes the value of the rural milieu and its inhabitants, the contemporary linkages of the rural-urban continuum, the challenge of building or re-building the rural social fabric by strengthening the rural citizenry and organizing social capital as strategic elements for re-directing the development model. This new vision of the rural milieu promotes the strengthening and development of democratic processes, the political, social, cultural and economic participation of the population (men, women, youths and ethnic groups) and the alleviation of poverty.

In this context, agriculture is an important, but not the only, component in the promotion of rural development, given the sectors it links, its processes of adding value and other activities that are generated in the rural milieu, which illustrate the growing importance of non-agricultural rural jobs and income.

The search for competitiveness with equity, the consideration of a rational use of natural resources and the improvement of living conditions in the rural milieu are closely interrelated. What is needed are policies and actions aimed not only at increasing productivity in each sector, but also at fostering the development of linkages among the social, production-trade, environment and political-institutional sectors.

The cornerstones of expanded agriculture

The change from the traditional vision of agriculture to a broader and systemic concept that includes new stakeholders, processes and products, new approaches to the interaction between agriculture and its rural milieu, and that takes into account the profound changes in the setting, has

substantially modified the characteristics and relative importance of the factors considered in agriculture's traditional function of production.

Whereas in the past natural resources were viewed simply as inputs for the production of foods and fibers, today their use is viewed more comprehensively, involving other conditions such as sustainable use and environmental conservation. This makes it necessary to examine, from the standpoint of national accounting, the still unrecognized contributions of agriculture and natural resources to the national economy.

As regards outputs, agriculture no longer produces only foods and fibers but also products that are used by the pharmaceutical, chemical and tourist industries; it also provides environmental services and contributes to the maintenance of biodiversity.

Agriculture also performs different non-economic functions, such as overcoming poverty, preserving social and cultural values, and even helping to ensure governance and maintain peaceful social relations.

The approaches to the treatment of human capital have also changed. Not only must human capabilities and knowledge be upgraded, but attitudes and behavior must change and access to education and health services be improved. Importance is also being attached to the formulation of policies that foster a transference of surplus human resources from agriculture toward other sectors both in the rural and urban milieus.

In this era of knowledge, special consideration should be given to information as a new strategic factor that affects decisions on the allocation of resources for investment, production, distribution and consumption. In a time of globalization and market integration, in order to ensure the competitiveness of agriculture, market development, and a more efficient allocation and distribution of inputs, products and services in the countries, it is vitally important to have formal, structured, integrated and accessible information systems that meet uniform standards and contain validated data. On the demand side, a more informed consumer can more efficiently select from among the different product/service options.

The national setting is being shaped by a change of model that is modifying the rules of the game for stakeholders. The closed growth model is being left behind in favor of strategies to liberalize trade, within the framework of open regionalism. As a result, there is a change in the direction and focus of public policies, and in the ways that the public and private sectors of the economies interact.

Within the framework of this new systemic perspective, the performance of agriculture and the rural milieu depends on many factors that are changing as a result of hemispheric political mandates and the new approaches stemming from changes in models and paradigms. Some of these factors, which are essential for the development of agriculture and the rural milieu, have been identified: *the environment and natural resources*, which are essential for food production, health and life itself; *science and technology*, as elements that promote the development of humanity; *human capital*, which is associated with nature, the economy and a geographic area; *information and knowledge*, as new assets for production; and *the political-institutional context*, which facilitates the articulation of these factors, which can be considered the "cornerstones" of expanded agriculture. (For further details, see Annex 2.)

Environment and natural resources

LAC is one of the richest regions of the world in terms of natural resources. Its great biodiversity and the potential of its genetic resources are not being fully tapped by the populations that have access to them, since the know-how and inventions of large commercial consortia are necessary for making use of them. The physical distribution of natural resources, their quality vis-à-vis the size of the populations, and climatic conditions account for the significant differences between countries and regions, and explain, in part, the poverty that prevails in them.

In the Americas, the worst poverty exists in the humid tropics, in very dry regions, in areas with extremely steep terrain, and in areas where soils are sterile, eroded or very shallow. The deep and fertile soils of the pampas of Argentina and the states of southern Brazil contrast sharply with conditions in the Atacama and Sechura deserts on the Pacific coast, or with the hillsides of the Andes, Central America and the Caribbean. In some regions, the situation is further aggravated by adverse climatic conditions that include frequent tropical storms and hurricanes.

Agricultural sustainability and the impact of severe climatic events on populations, regions and countries are closely related to natural resource management. In order to prevent losses of infrastructure and social and economic investments, as well as the deterioration of soils, river basins, forests and water sources, it is necessary to promote inter-institutional management strategies and integrated policies with multiple objectives that link development plans with the preservation of the environment and natural resources.

Science and technology

It is worth special mention to underscore the importance of scientific and technological development in the world economy, because the ideas and knowledge incorporated into products and services constitute a large part of the value of products that are sold. This applies to agriculture as well, especially with the advent of the agro biotechnologies, which are having an impact on agriculture in temperate countries and, to a lesser extent, in countries in the tropical regions of LAC.

Important progress in competitiveness has been observed in some countries as a result of the use of seeds obtained through the new agro-biotechnologies and minimal tillage technologies that avoid erosion. The appropriate use of these technologies will increase the value of genetic resources.

The adoption of a suitable technological agenda provides evident benefits, as demonstrated by the yields and the rates of return on investments in agricultural research. An analysis of 102 impact assessment studies conducted in LAC between 1953 and 1998 reveals an average rate of return of

Insert 5 Trends in investments in research

In developed countries such as Australia, Japan, the United States and those in Western Europe, there are between 3,000 and 6,000 scientists per million inhabitants, and investment in research is equal to or greater than 2% of the gross domestic product (GDP). In contrast, in LAC, there are 380 researchers per million inhabitants and investment in science and technology is barely 0.5% of GDP.

FORAGRO, based on Yearbook Data/UNESCO

53.2%, which means that research adds value to agricultural production⁸ and is highly profitable when compared with other alternatives.

Human capital

In order to increase business competitiveness, generate employment, boost incomes so as to combat rural poverty, and ensure the sustainable management of natural resources and agrifood production, it is necessary to acquire, use and update knowledge, as well as the capability to generate it.

To develop human talent, it will be necessary to train specialists, producers and professionals involved not only in the economic activities carried out in rural society, but also in those activities that will contribute to reconstructing the social fabric in the rural milieu through inclusive and equitable processes.

This is a complex task. If national educational systems are to be used to develop these capabilities, they must be updated to include new subjects that have gained new importance as a result of advances in technology, market liberalization, the growing participation of the private sector and civil society, and the new role of the State.

Information and knowledge

In this age of knowledge, timely access to information and knowledge is indispensable if producers and countries are to place competitive goods and services on the market. Access to knowledge is also essential if rural inhabitants are to be able to reduce poverty levels and improve their economic and social position vis-à-vis the rest of the population. Timely access to information translates into higher quality products and services, greater competitiveness, sound decision making and, consequently, the development that all countries seek.

Although their benefits are widely recognized, not all the countries (and much less rural areas) have access to the new information and communications technologies. Some LAC countries cannot invest their financial resources in these new technologies, which only heightens the inequalities among nations.

The challenge for the developing countries is to formulate strategies that will work in their economies, strategies that will enable them to identify and adopt new technologies that are compatible with their particular conditions, thus guaranteeing sustainable and equitable development.

⁸ Other studies show that, on average, between 1960 and 1989, some 40% of the total changes in the total factor productivity of agriculture in the region was achieved with the application of new technologies (Romano, L. 1999. Metodologías para la evaluación de impacto de la investigación. Bogotá)

Policies and institutional framework

Three developments have made it necessary to review policy and institutional frameworks in the region. First, the new supranational rules adopted by the countries for different areas --trade, environment, social programs and labor, among others-- represent a new institutional framework that the countries must internalize. This new framework will shape what the countries can do in terms of their policies on agriculture, trade, services or foreign investment, for example. Internalization of such rules involves not only the ratification of agreements, but also the development of capabilities to administer them, the adjustment of domestic legislation, and the formulation of policies that are consistent with such rules.

Secondly, the mandates derived from the inter-American summits process represent concepts to be adopted, courses of action to be followed. Not only do they affect the national institutional framework and policies that affect agriculture and the rural milieu, they also constitute commitments that modify conditions in the regional setting and how the classic factors of the function of production in agriculture (natural resources, human resources, physical capital, technological innovation and methods of organization) are used.

Third, reforms in national economic policies and the adoption of a new development strategy that places greater emphasis on markets and private stakeholders (in substitution of the previous import-substitution model), combined with efforts to promote the penetration of international markets, make it necessary to assess the national institutional framework (in particular that of the State) and the ways to participate in markets.

The assessment of the role of the State in the LAC countries has resulted in changes in the structure of the public sector (in this case, agriculture and rural development). The State is providing services in new ways that often involve inter-agency action. Many functions previously carried out by the State have been transferred to the private sector and to organizations of civil society, through the privatization of public assets, service contracts, the awarding of concessions, or decentralization of functions to local or municipal authorities.

The need to enhance competitiveness, ensure equity and conserve natural resources and the environment has increased the number of stakeholders and interests that must be taken into consideration in formulating and applying public policies to foster the development of agriculture and the rural milieu. In other words, in addition to farmers, processors, merchants and suppliers of the agrifood sector, who have a personal interest in agricultural policy, consideration must also be given to other interest groups that represent broad or very specific interests of society. This is why it should not be a surprise that the goals for public policies should be defined not only in terms of efficiency, but also in terms of the interests of this range of stakeholders.

It is therefore necessary to look for new institutional arrangements and modify the systems of incentives, through appropriate mechanisms for consultation and consensus building with the public and private stakeholders of the expanded agricultural sector.

III. PERFORMANCE OF AGRICULTURE AND RURAL DEVELOPMENT IN THE AMERICAS

When analyzing the performance of agriculture and the rural milieu in the Americas, it is difficult to arrive at general conclusions, due to the great diversity and heterogeneity of agricultural and rural conditions in the countries of the region. It is difficult to draw conclusions that can be applied equally, for example, to countries whose economies vary greatly in size, such as Brazil and most of the island nations in the Caribbean; to countries in which the relative importance of the agricultural sector varies greatly, such as the countries of Central America and most of the Andean countries, when compared with Caribbean nations such as Barbados and the Bahamas, where agriculture has less weight in the economy and tourism constitutes the main activity; and to countries in which the percentage of the population that lives in rural areas varies greatly, such as Venezuela, where less than 6% of the population lives in the rural milieu, which contrasts with its neighbors in the Andean subregion, which have large rural populations.

In the Americas, the situation becomes even more complicated when the larger developed countries of North America are taken into account. Including them renders statistical averages and comparisons of indicators almost useless, unless their data are used simply for reference purposes. However, certain general behaviors can be identified for LAC, which will be analyzed below. For some indicators, and for purposes of comparison/reference, especially as regards trade, information on the United States and Canada has been included.

The analysis indicates that, in general, agricultural production in the region has been growing but at a slower pace than GDP, meaning that agriculture's relative share of GDP has fallen. The increase in agricultural production has been due, primarily, to greater worker productivity, although average productivity is still low when compared with that in developed countries.

LAC continues to be a net food-exporting region, although some of the countries are net importers. Analyses of the competitiveness of agricultural exports from the region, however, show that its comparative advantages are declining on the international market. Studies of the incorporation of new technology into production show that only a few crops, many of them basic foods, have increased productivity as a result of technical change. For most crops, changes in production have stemmed from increases in the area under cultivation.

In terms of food security, the region is in a favorable position, although five countries are vulnerable in terms of their populations' access to food and the availability thereof.

While the region can report considerable progress in the area of agricultural health and food safety, the necessary institutional, regulatory and technological frameworks require further development. In addition, the incidence and prevalence of diseases such as foot-and-mouth disease and pests such as the pink mealybug and fruit flies, which affect production activities of great economic importance for the region, highlight the importance of strengthening agricultural health and food safety systems in LAC.

In social terms, rural poverty persists and is worsening. Two causes for the decline in the standard of living in rural areas and the ineffectiveness of rural poverty eradication programs are the crisis in the institutional framework for rural development and cutbacks in investments for social programs.

As regards natural resources and sustainable development, rapid urbanization is occurring in the region, aggravated by the destructive and polluting practices of certain production systems. This is increasing the number of environmental problems and the vulnerability to severe climatic events, and contributing to accelerating the degradation of soils and ecosystems. In the near future, these practices may also lead to a shortage of water, an indispensable resource.

Production and trade-related considerations

Overall performance Production growth and share of agriculture in the gross domestic product (GDP)

Agricultural production in LAC grew steadily from 1993 to 1999, after suffering a decline in 1992. Its growth mirrored the performance of the GDP, although at a slower pace. In the last two years (1997-1999) of the period studied, agricultural production in the region grew at 2.58% annually, slightly above the base period of reference (1986-1988). However, this aggregate performance at the regional level hides differences in the performance of specific countries⁹, which it is important to underline:

- Only five countries grew at rates above 4% per annum: Brazil, Belize, Nicaragua and Peru with rates above 5%; the other country was Antigua and Barbuda.
- Seven countries grew at rates between 2% and 4%: Argentina, Costa Rica, Grenada, Guatemala, Guyana, Paraguay and the Dominican Republic.
- Four countries experienced slow growth during the same period, with rates below 2% but above 1% per annum: Bolivia, El Salvador, Mexico and Panama.
- The agricultural sectors of 14 countries (almost half of the sample) showed stagnation or declines in performance: Barbados, Chile, Colombia, Dominica, Ecuador, Haiti, Honduras, Jamaica, St. Vincent and the Grenadines, St. Lucia, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

The long-term trend observed in the region's agricultural value added was a decline of its share in GDP, which fell from 10.81% in 1986 to 7.76% in 1999.

Worker productivity

The growth of agricultural production in the region can be explained by an increase in worker productivity, a greater use of inputs (fertilizers and tractors), and to a lesser extent, an increase in the

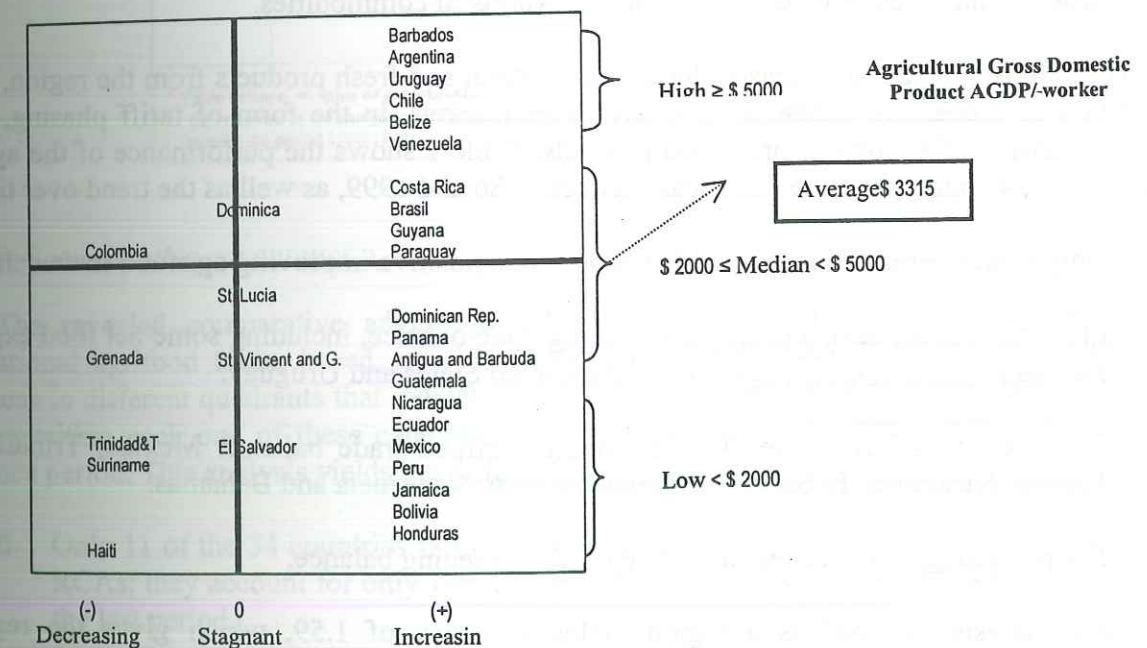
⁹ A sample of 30 countries for which information was available was analyzed.

amount of land used for agriculture, especially arable land. Between the periods compared (1986-1988 and 1997-1999), the use of fertilizers in the region grew by almost 20%, the use of tractors per worker by almost 15%, and the number of tractors per hectare by some 4%.

Figure 1 analyzes a sample of 30 countries of the Americas vis-à-vis worker productivity. This analysis leads to the following conclusions:

- In 12 countries, worker productivity in agriculture exceeded the regional average (US\$3,315 at 1995 prices). In 10 of these countries, worker productivity in agriculture rose between the periods considered; in one of them, it held steady; and in another (Colombia) it fell.
- In 18 countries, worker productivity in agriculture was lower than the regional average. Of these countries, 11 experienced an improvement in their situation vis-à-vis the base period, 3 remained unchanged and 3 lost ground.

Figure 1. Evolution of worker productivity in agriculture worker in LAC. 1986-1988/1997-1999 in 1995 US\$



Average productivity per worker in LAC is 10.5 times less than in a developed country such as Canada (US\$34,922). This illustrates the gap that must be closed in this very important aspect of the competitiveness of agricultural production in the region.

Foreign trade

In the area of foreign agrifood trade, agrifood exports from the region grew steadily between 1986 and 1999, but at a slower pace than the growth of total exports of goods. As a consequence, agrifood exports declined as a percentage of total goods exported; after representing one third of the total in 1986, they dropped to only 23.5% in 1999. This performance is similar to that observed worldwide, although the decline at the global level was much more dramatic; after representing 28.4% of total exports of goods in 1986, they fell to only 5.3% in 1999.

As a whole, LAC continues to be a net food-exporting region, even though some countries are net importers of foods. Nevertheless, there has been a gradual decline in the positive balance of the food trade balance, which fell by almost 60% during the period analyzed. In addition, the ratio between food exports and imports dropped from 4:1 (for each US\$4 exported, US\$1 was imported) in 1986 to a ratio of 2.4:1 at the end of 1999. With regard to the foreign trade of processed products, the situation of the trade balance is positive and stable (US\$1.6 exported for each US\$1 imported).

An analysis of the ratio between exports of processed products and commodities shows little growth, in contrast to the situation observed at the global level, where the growth in the exports of processed products has been more dynamic than the exports of commodities.

This can be attributed to increased demand for natural and fresh products from the region, and to the protection of processing industries in many target markets, in the form of tariff phasing, which limits the expansion of exports of processed products. Table 1 shows the performance of the agrifood trade balance in 34 countries of the Americas between 1986 and 1999, as well as the trend over time:

- Only Belize, Brazil, Canada and Ecuador have a positive/improving agrifood trade balance.
- Eleven countries have a positive/worsening trade balance, including some net food exporters such as Argentina, Chile, Costa Rica, the United States and Uruguay.
- Eight countries have a negative/improving agrifood trade balance: Mexico, Trinidad and Tobago, Nicaragua, El Salvador, Barbados, Peru, Venezuela and Bahamas.
- The remaining 11 countries show a negative/worsening balance.
- An analysis of LAC as a region yields an index of 1.59, which gives the region a positive/worsening balance.

Table 1.
The Americas: Food Trade Balance¹, 1986-1999

	Improving	Worsening
Positive	Belize (3,07) Brazil (2,59) Canada (1,53) Ecuador (5,53)	Argentina (8,66) Guyana (4,64) Costa Rica (4,2) Uruguay (3,84) Paraguay (2,95) Chile (2,52) St. Vincent and Grenadines (1,55) Guatemala (1,60) United States (1,45) Dominica (1,12) Colombia (1,07)
Negative	Mexico (0,69) Trinidad and Tobago (0,54) Nicaragua (0,57) El Salvador (0,48) Barbados (0,44) Peru (0,40) Venezuela (0,20) Bahamas (0,08)	Bolivia (0,98) Panama (0,86) Suriname (0,81) Grenada (0,73) St. Lucia (0,63) Jamaica (0,57) St. Kitts and Nevis (0,57) Dominican Republic (0,50) Honduras (0,44) Haiti (0,04) Antigua and Barbuda (0,00)

¹ Trade balance = value of exports/value of imports. This indicator is presented for 1999. Placement of the countries in the categories of "improving" or "worsening" was based on the annual average growth rate for the period 1986-1999.

Revealed comparative advantages

The revealed comparative advantage (RCA) index shows the level of competitiveness in international agrifood trade, based on a country's trade flows. Table 2 places 34 countries of the Americas in different quadrants that indicate if the RCAs are positive or negative, as well as how they perform within each one of these categories (declining or increasing trend), with 1988-1999 as the reference period. This analysis yields the following conclusions:

- Only 11 of the 34 countries fall into the most promising category of positive and increasing RCAs; they account for only 14% of the annual average of agrifood trade in the Americas in the last period.
- The bulk of the countries (15) (representing about 75% of agrifood trade) fall into the category of positive but declining RCAs. In this group, the United States is the country with the greatest relative weight (49%).
- The countries with the greatest revealed comparative disadvantages and which depend increasingly on the international market to meet domestic demand are: Mexico, Trinidad and Tobago, Peru, Haiti, Bahamas, Venezuela, Suriname and Trinidad and Tobago. Together, they account for 9% of agrifood trade in the Americas.

In Annex 3, the RCAs are analyzed by groups of products, revealing that the commodities for which demand was strongest worldwide between 1988 and 1999 were, in descending order:

Products	Percentage increase in demand
Animal and plant oils	8.06
Beverages and tobacco	6.12
Coffee, cocoa, tea and spices	4.37
Fruits and vegetables	4.25
Meats and prepared products	3.22
Dairy products and eggs	3.08
Grains and prepared products	3.05

The first four groups are the most dynamic and are gaining in market share, growing at a rate faster than that of world imports of the agrifood total (3.78%).

In terms of the value of trade in the Americas, the most important groups are fruits and vegetables (on average, US\$36 billion), grains and prepared products (US\$33 billion) and beverages and tobacco (US\$23 billion).

Only a relatively small portion of the trade in all the groups of products falls into the category of *increasing* revealed comparative advantages. The only exception is meat and prepared products: these are the most competitive (80.5% of trade) but only in five countries: Bolivia, Brazil, Canada, Panama and the United States.

The groups of products for which the greatest number of countries have revealed comparative advantages (either improving or worsening) are fruits and vegetables (26 countries), coffee, cocoa, tea and spices (23 countries) and beverages and tobacco (20 countries).

Relatively few countries have revealed comparative advantages in dairy products and eggs (10 countries), cereals and prepared products (10 countries) and meat and prepared products (11 countries). This means that the other countries that fall into the category of revealed comparative disadvantage also tend to have a negative trade balance with respect to these products.

Food Security

In a world of growing trade, falling food prices and burgeoning grain stocks, 800 million people suffer from chronic hunger. This shows how access and distribution, more than production are essential if human beings are to enjoy food security.

Table 2 The Americas: revealed competitiveness of agrifood trade, 1988-1999 ¹ Annual average growth in world demand: 3.78%		
	INCREASING (Improvement)	DECLINING (Deterioration)
POSITIVE (revealed comparative advantage)	<i>St. Vincent & the Grenadines</i> <i>Belize</i> <i>Saint Lucia</i> <i>Uruguay</i> <i>Guyana</i> <i>Dominican Rep.</i> <i>Bolivia</i> <i>Brazil</i> <i>Barbados</i> <i>Chile</i> <i>Jamaica</i>	<i>Argentina</i> <i>Guatemala</i> <i>Paraguay</i> <i>Costa Rica</i> <i>Panama</i> <i>Grenada</i> <i>Nicaragua</i> <i>Ecuador</i> <i>Honduras</i> <i>St. Kitts and Nevis</i> <i>Colombia</i> <i>United States</i> <i>Dominica</i> <i>El Salvador</i> <i>Canada</i>
	US\$29.3 billion (14.32%)	US\$155.4 billion (75.87%)
NEGATIVE (revealed comparative disadvantage)	<i>Mexico</i> <i>Trinidad and Tobago</i> <i>Peru</i> <i>Haiti</i> <i>The Bahamas</i> <i>Venezuela</i>	<i>Suriname</i> <i>Antigua & Barbuda</i>
	US\$19.8 billion (9.67%)	US\$ 0.3 billion (0.14%)

¹ At the end of each quadrant the value of agrifood trade (exp. + imp.) is shown for the period 1996-1999 for each group of countries and its share of agrifood trade in the Americas (as a percentage). US agrifood trade for the same period totaled US\$100.7 billion, or 49.2% of the total for the Americas.

Argentina, Belize and Canada, on the other hand, are the most important net *exporters* of food per inhabitant.

The indicators on *country access* suggest that the United States is the country in the Americas that has least difficulty in financing its food imports, while Bolivia, Ecuador, Grenada, Guatemala, Guyana, Haiti, Honduras and Peru have the greatest difficulty. The latter countries require over 15% of their exports to finance food imports and, in the case of countries such as Grenada and Haiti, the total value of their exports is not enough. It is worth noting that only seven net-food-importing countries improved their relative position during the period used for the comparison: The Bahamas, Barbados, El Salvador, Mexico, Nicaragua, Suriname and Trinidad and Tobago.

¹⁰ For further details, see Annex 4 (Methodological note).

LAC is no exception. It is the only region of the world that is a net exporter of agricultural products, with a trade surplus of US\$22.9 billion in 1999. Nonetheless, thousands of people die of hunger and suffer from malnutrition. The asymmetries observed in the Americas are alarming: while average food consumption in countries like the United States, Canada and Dominica is over 900 kg/inhabitant, in countries like Haiti, Guatemala, Nicaragua and El Salvador it is less than 450 kg/inhabitant. In the case of countries with very low levels of food consumption, the level is directly proportional to real income per inhabitant.

Annex 4 shows the relative position of the countries with respect to different variables that make them either more or less vulnerable in terms of access to food products and the appropriateness of supply. Four categories are defined for the analysis: country access, individual access, availability and an average of all of them.¹⁰

The Bahamas, Barbados and Grenada are the most important net food *importers* in the Americas.

The findings on *individual access* suggest that ten countries are highly vulnerable: consumption levels are very low and the ability to pay for food is the most important constraint. In order of vulnerability, the countries in question are: Haiti, Nicaragua, Honduras, Bolivia, Dominican Republic, Guyana, Peru, Guatemala, Ecuador and El Salvador. By way of example, and taking into account only consumption and income per inhabitant, in countries like Haiti, Nicaragua and Honduras, consumption is less than 500 kg of food per inhabitant and annual income is less than US\$700. It is interesting to note that the relative position of the countries vis-à-vis these variables did not change throughout the 1990s, except for Antigua and Barbuda, where the situation worsened compared with the 1992-1993 period.

With respect to the *availability* of food products, it is more difficult to establish the dividing line between countries. However, The Bahamas is the country with the biggest relative disadvantage simply because the agricultural land available is barely 0.03 ha. per inhabitant, and over 60% of the domestic food supply is imported. Other countries in a similar situation are Trinidad and Tobago, Antigua and Barbuda, Barbados, Grenada, Haiti and Nicaragua. The situation in Nicaragua is surprising: the country has enough agricultural land per inhabitant (over one hectare) but agricultural output is insufficient to feed the population. The countries with the biggest relative advantage as far as food production is concerned are the United States, Canada, Colombia, Bolivia and Mexico.

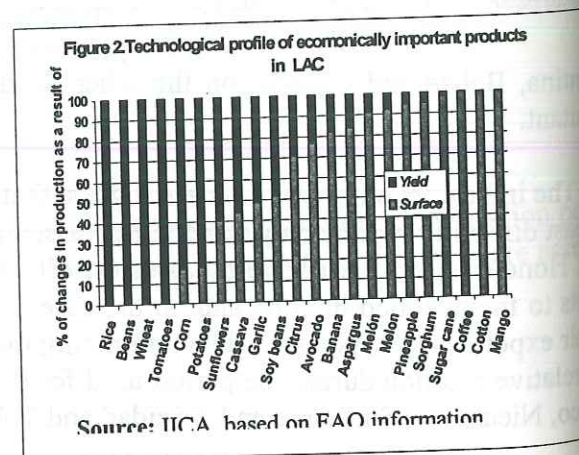
The average of all the variables included reveals that the United States, Argentina, Uruguay, Costa Rica, Canada, Paraguay and Brazil are the least vulnerable countries and, therefore, are least likely to face food security problems. At the other end of the scale, the countries with the biggest constraints vis-à-vis food supplies for their peoples are Haiti, The Bahamas, Dominican Republic, Grenada and Nicaragua.

Finally, to establish the level of food security it is not important whether a country is a net importer of foodstuffs. In fact, there is little correlation between net food imports per inhabitant and the food situation of the countries. A large percentage of the rural population meets its own basic food needs. This causes the critical situation faced in some LAC regions and countries when harvests are lost due to extreme natural events, such as droughts and flooding.

Technology, production and productivity

Technical change has been important in promoting agricultural modernization in the LAC countries. However, it is important to ascertain what the current situation is regarding the incorporation of new technologies into production, since this is a factor of competitiveness.

Figure 2 shows an indicator of the incorporation of technical change. It measures the percentage of change in production (1975-1997) for 22 agricultural products, using two variables: per hectare yield and the surface area incorporated in production.



The results for the region were not very favorable:

- In the case of 12 products (citrus fruits, avocado, banana, asparagus, melon, papaya, pineapple, sorghum, sugar cane, coffee, cotton and mango), which account for 54.5% of the sample analyzed, 70% or more of the changes in production were achieved by increasing the land under cultivation.
- Only in the case of 8 products, or 36% of the sample (including 6 staple foods: rice, beans, wheat, potatoes, cassava and corn), has the contribution of technical change been significant and been reflected in higher productivity per hectare.

Per capita production has risen less for products that have incorporated more technology; this has implications for the food security of the countries. One working hypothesis is that technical change, even for the group of products whose yields rose, has progressed more rapidly in other countries and, technologically speaking, this region—mainly the tropical subregion—has not been competitive. As a result, the region now faces competition from other countries with a higher level of technological development and that produce basic foodstuffs more efficiently than the countries in the tropical subregion of LAC.

In this connection, the country-by-country analysis is even more negative. Again taking the period 1975-1997 as a reference, Table 3 tracks the trend in yields by analyzing 7 products for which new technological developments have been adopted in LAC. As many as 29.1% of the cases analyzed revealed a decline in yields, suggesting that failure to ensure access to technological advances limits and restricts technological development.

Table 3. Countries with a per hectare decline in yields, for products of economic importance in LAC

Product	Number of cases analyzed	Countries with negative rates	
		Number	% of the total
1. Sorghum	19	7	36.8
2. Wheat	13	2	15.4
3. Rice	28	8	28.6
4. Cotton	22	9	40.9
5. Corn	36	10	27.8
6. Soybean	20	3	15.0
7. Coffee	27	9	33.3
Total cases	165		29.1

Note: The trend is represented by the annual growth rate (1975-1997).
Source: IICA, based on FAO information.

Agricultural health and food safety

Agricultural health and food safety are determining factors in the competitiveness of agriculture. They are also extremely important for public health and have a direct impact on the national and international trade of agricultural and forestry food products.

Their performance can be analyzed in two ways. The first has to do with how competent and effective agricultural health and food safety systems (AHFSSs) are in preventing, controlling and eradicating pests and diseases in crops, livestock and foods, actions that have traditionally been viewed as their basic functions. Under this approach, the task is to analyze the status of animal health, plant protection and food safety.

The second approach focuses on integral functions and consists of the analysis of three dimensions of AHFSSs: the institutional, regulatory and technological dimensions. Each of these dimensions acts upon and impacts the others and has to do with, among other things, new national and international, public and private stakeholders, the existing legal framework, and the capacity for preventing or providing a timely response to emerging situations. This approach, developed by IICA, has been discussed and approved by the Committee on Sanitary and Phytosanitary Measures (CSPM) of the World Trade Organization (WTO).

Animal health

Foot-and-mouth disease continues to be the animal disease of greatest concern in the LAC countries. Some 2% of the countries in the region report it as being a permanent threat, either due to its economic repercussions or the effort involved in maintaining a country or region free of the disease. All the countries of the Central and Southern subregions reported that the disease was a high priority for their AHFSSs.

As many as 54% of the countries also give high priority to the prevention and eradication of *classic swine fever*. In the poultry sector, 50% and 41% of the countries, respectively, reported an interest in *poultry influenza* and *Newcastle disease*. Eight countries, four of them in the Southern subregion, are worried about encephalopathies, while 4 countries, 3 of them in the Southern subregion, expressed concern about PEARs syndrome.

Many LAC countries are net exporters of livestock products and byproducts. Therefore, the AHFSSs of the LAC countries must continue to attach priority to the prevention, control and eradication of this group of diseases, all of which figure on *List A* of the World Organisation for Animal Health (OIE).

¹¹ Since 1999, IICA has enjoyed observer status with the Committee on Sanitary and Phytosanitary Measures (CSPM) of the World Trade Organization (WTO).

Insert 6

Investment for agricultural health

During the period 1961-1998, the IDB allocated a little over US\$16 billion to finance agricultural projects. Of this, only 3% were allocated to agricultural health projects, demonstrating how the countries have generally attached little importance to investment projects in this field.

Inter-American Institute for Cooperation on Agriculture, based on IDB information.

Although attending to emerging health issues is also a priority, the capacity for anticipated detection is very limited. For example, only one of the countries surveyed reported that it had implemented measures to deal with the possible effects of advances in biotechnology, such as the use of hormones in meat production. None mentioned potential problems stemming from the use of the growth hormone in animals used for milk production; only two countries in the Southern subregion expressed that they felt unprepared to design arrangements for traceability in cattle; and potential problems in the aquaculture sector were not reported, despite the fact that it is one of the world's emerging production systems.

Other areas related to, but not exclusively the preserve of, animal health are organic production and environmental management. Only one country expressed concern at the lack of regulations and certification for the organic production of milk and meat and none mentioned the environmental impact of livestock production systems, e.g., in relation to waste management, the production of gases, the accumulation of heavy metals and the impact on biodiversity.

Plant protection

Plant protection problems are addressed differently than animal health problems. With the exception of the fruit fly¹² and the pink mealy bug (*Maconellicoccus hirsutus*), which were reported by nine and 11 countries, respectively, all the other pests and diseases were mentioned by only one country each.

The Andean subregion is more concerned about fruit pests and diseases. The Caribbean views with concern the recent outbreaks and the level of prevalence of the pink mealy bug, which is followed in importance by fruit flies, diseases in citrus fruits (*tristeza*, *cancer* and *leprosis*) and lethal yellowing of coconut, caused by viroids. The Central subregion and Mexico are concerned about two multi-host pests: the pink mealy bug and the *Trips palmi*, followed in importance by cereal pests—mainly in rice—and fruit flies. This situation reflects the importance of tropical fruits and ornamental plants in the exports of these countries.

In the southern subregion fruit flies are a concern for three of the five countries. Another emerging issue is the lack of regulations and an international agreement governing the production and commercialization of genetically modified organisms, which are of strategic importance for this subregion, mainly for the development of crops such as transgenic corn and soybean.

Food safety

The growth of world trade, rapid urbanization, migration and consumer concern at the growing appearance of diseases linked to food consumption point up the importance of food safety as a part of the work of the AHFSSs. This is an emerging issue that is important for public health and the safety of agrifood markets.

¹² The fruit flies that are most important in economic terms are: *Ceratitidis capitata*, *Anastrepha* spp and *Bactrocera dorsalis*.

The health authorities of the LAC countries report an increase in gastrointestinal illness related to food consumption. Diarrhea is one of the five leading causes of infant mortality, but it also affects other segments of the population. Such gastrointestinal illnesses are caused by different types of bacteria, protozoa and viruses, the most important of which are *Campylobacter*, *E. coli*, *Salmonella* and *Shigella*.

Chemical contamination in the final product was reported as being a priority concern in all subregions. This situation reflects the growing concern of society, and the adoption in the countries of norms and procedures established by the Commission of the *Codex Alimentarius* for the management of drug and pesticide residues, as well as other pollutants. This is followed in importance by microbiological contamination, in particular by *Salmonella* sp.

Status of AHFSSs

The status of AHFSSs in LAC is varied because, generally speaking, they show different imbalances in the development of their institutional, regulatory and technological frameworks. *Institutional framework* refers to the governments' participation in the standard-setting bodies, technical independence of their institutions and the processes that support and sustain the system. *Regulatory framework* has to do with correlating international regulations with domestic legislation, and establishes the rights and obligations of the stakeholders. The *technological framework* consists of the tools used to enhance stakeholders' efficiency and the processes identified earlier.

Table 4 shows the variables that make up these frameworks and that must be considered when establishing technical cooperation or investment programs for the development of AHFSSs.

Table 4. Variables to be taken into account in the institutional, regulatory and technological frameworks of the AHFSSs

Institutional framework	Regulatory framework	Technological framework
<i>Encompasses</i>	<i>Encompasses</i>	<i>Encompasses</i>
<ul style="list-style-type: none"> ✓ Responsiveness ✓ Financial sustainability ✓ Technical sustainability (education, training) ✓ Technical independence ✓ Official responsibility (WTO, OIE, IPPC, Codex Alimentarius) ✓ Certification ✓ Accreditation ✓ Traceability ✓ Research ✓ Communication 	<ul style="list-style-type: none"> ✓ Adoption of agreements and international regulations ✓ Legislation ✓ Norms ✓ Regulations <p>Applied to plant protection, animal health, food safety and agricultural inputs.</p>	<ul style="list-style-type: none"> ✓ Capacity for diagnosis ✓ Surveillance ✓ Quarantine ✓ Risk analysis ✓ Emerging issues ✓ Regionalization ✓ Information systems ✓ Registration of inputs ✓ Sanitary campaigns ✓ Campaigns on risk factors (HACCP, BPA) ✓ Emergency systems

Source: IICA

Based on the hemispheric consultation carried out, it is fair to say that, overall: i) the countries play only a small role in international reference organizations including Codex Alimentarius, the OIE and the International Plant Protection Convention (IPPC); ii) risk analysis units either do not exist or are inadequate; iii) there is little articulation between the public and private sectors; and there is an absence of information and surveillance systems to support decision making.

Most progress has been made in the regulatory area. One reason for this is the binding nature of the international agreements and the countries' need for specific legislation governing their regulatory responsibilities. The institutional framework is the least developed in all of the countries. This situation has to do with the fact that, while agricultural health services remain the preserve of the ministries of agriculture, a wide range of international public and private stakeholders and institutions are also involved. Organizational articulation therefore needs to be strengthened.

Social and human considerations

Poverty and quality of life

In LAC, 40% of the population live in poverty, and 17% in dire poverty. This means that more than 200 million people cannot meet their basic needs, and that some 100 million live in abject poverty. This situation is much worse in the rural milieu, where poverty levels exceed 50%, and one in three inhabitants lives in extreme poverty.

Poverty affects rural and urban areas differently. In rural areas, the incidence of poverty is two times greater, and dire poverty three times greater, than in urban areas. Access to basic services is very limited in rural areas. The adjusted average for infant mortality is 57.2/1000 births in the rural milieu, versus 43.5/1000 births in urban areas. Rural education is of much lower quality than urban education: in the rural milieu, 21% fewer children attend school than in urban areas. While it is true that most of the poor in the region live in urban areas, they used to inhabit rural areas. In other words, urban poverty is the result of the migration of rural inhabitants to urban areas. As a result, over the last 30 years, the spatial distribution of the population has changed; the urban population, which used to account for 58% of the total population, now accounts for 79%.

Poverty does not affect all segments of the rural population equally. Women and indigenous communities are hit particularly hard. In the rural milieu, there is a heterogeneous universe of poverty, consisting mostly of subsistence farmers, who have limited access to production assets and account for 66% of the population (47 million people), and landless small farmers and rural wage earners, who make up 30% of the population (21 million people). As a result of the migration of so many men from rural areas, women are playing a more important role in agricultural production, even though national statistics do not accurately reflect their role. Women's productivity is restricted for several reasons: limited ability to land tenure as a result of discriminatory practices inherent to agrarian reforms of the past; inflexible gender-based patterns of behavior, which also contribute to a highly inefficient distribution of labor; difficulty in gaining access to services; higher rates of illiteracy; and greater vulnerability to domestic violence and unemployment, among other factors.

As for young people in the rural milieu, most have little education and drop out rates are high. Job opportunities are scarce, except poorly paid, exploitative jobs; teen pregnancy rates are high; their family situations are very unstable; they are not taken into account in the formulation of public and private policies, etc. Young people's problems are manifested in different ways from country to country and between genders. In some countries, large numbers of children work in agriculture, mining and as domestic help. The problems of young people are growing worse, and urgent measures are needed to break the vicious cycle of poverty.

The distribution of wealth is more unequal in LAC than anywhere else in the world, and the gap is widening in every country in the region. In addition, the GINI coefficients have continued to increase vis-à-vis the concentration of land ownership, in fact, the seven countries in the world with the highest level of concentration are in LAC. This inequity severely constrains efforts to alleviate poverty, limit economic growth, curtails access to basic services, and undermines the development of human capital.

Agricultural and non-agricultural rural employment

The level of poverty in LAC contrasts with the wealth of natural resources in the region, which include 23% of the planet's arable land, 46% of its tropical forests and 31% of its fresh water. At the same time, the region is home to only 10% of the world's population. The importance of natural resources to the region's economy is reflected in the weight assigned to agrifood production, which accounts for 35% of its economy (10% from primary production and 25% from agroindustry, manufacturing, production and related sectors). However, the situation in rural areas is changing greatly: now agricultural activities now play a greater role in its economy, with some 50% of the employment generated by non-agricultural activities.

The inequity that exists in agricultural production also exists in non-agricultural rural employment (NRE). An average of 40% of rural incomes is earned in the non-agricultural economy; however, the situation for the rich and the poor is markedly different. Although wealthier families are less dependent upon NRE, they earn more; the poor, on the other hand, depend more on NRE, but earn less. The rich are able to specialize more because of their access to education, infrastructure and dynamic markets. The poor are more diversified, but with regard to NRE, are tied to activities characterized by low productivity, low returns and stagnant markets.

An important subgroup that shows high levels of illiteracy is rural women. NRE is very important to them: however, since they have limited assets, suffer from gender bias, and face other social restrictions, rural women tend to work in jobs that pay very low wages. Women and indigenous populations must have greater access to assets if NRE is to represent an option for them to accumulate economic assets and break out of poverty, rather than continuing to be trapped in the vicious cycle of rural poverty.

Education

An analysis of the current situation in education for agriculture and the rural milieu shows that it is facing two crises and that strategic action is required. In general, there is an absence of national strategies and approaches in this area, meaning that there is no coherent framework of policies, purposes, objectives, topics and beneficiaries for education. The academic centers of the national education and training systems that address agricultural issues operate in a fragmented, uncoordinated fashion, with overlaps, duplication and gaps. As a result, opportunities for synergy are missed, the experiences of third parties are not tapped, and resources are used ineffectively. Overall, it can be said that there is no national feeling for the educational needs of agriculture and the rural milieu.

In addition, curricula are generally based at present on a traditional view of agriculture and on the academic capabilities of each learning center, more than on what students need. This should include new subjects arising from technological developments, market liberalization, the increasing

participation of the private sector, the new role of the State, and the integration process. The fact that only a few educational centers have a culture of institutional change, as well as mechanisms to update their curricula and research and extension systems on an ongoing basis, explains why they find themselves in this emergency situation.

It is important to point out that, as globalization moves forward, the problems of the educational system and curricula, and the inability to modernize academic centers, are becoming more and more severe and limiting from a strategic point of view. Moreover, regional integration is giving rise to new requirements vis-à-vis the evaluation and accreditation of educational institutions, making it necessary to align academic standards and create mechanisms for determining the equivalence of academic degrees, with a view to facilitating the movement of professionals among countries.

Ecological and environmental considerations

Use of soil and water resources

The situation of soil and water resources varies throughout LAC. Forty-four percent of the land is on hillsides, with 11% have more than a 30° incline. The countries of the Central, Caribbean and Andean subregions have the most hillside lands in the region, in comparison to their total territory¹³.

Twenty-three percent of the lands of the region are degraded to some degree, and 22% show severe degradation. The situation becomes worse when analyzed on a country-by-country basis. The most vulnerable countries are affected with greater frequency by droughts or floods; in general, their physical conditions are worse, and most of their terrain is hilly. For example, in the Southern subregion, the percentages of severely degraded land are 11% in Argentina, 24% in Brazil, 19% in Paraguay and 12% in Uruguay. In comparison the percentages in some of the countries of the Central and Caribbean subregions are 84% (Honduras), 94% (El Salvador) and 40% (Dominican Republic). The situation in Haiti is truly alarming, with 98% of its land being severely degraded.

These indicators show how difficult the situation is in some regions and countries of LAC for sustaining agricultural development as there are few or no options, and other alternatives must be found that enable affected populations to generate non-agriculture incomes. Aggravating these problems are the poor access to education, to technology and to reliable information for decision making on how to overcome these constraints.

On the matter of water resources, although LAC has an abundance of same, the situation is similar to the case of soils. More than 30% of the world's water is found in the Amazon, Orinoco, San Francisco, Paraguay and Magdalena river basins, yet there are arid and semi-arid areas in LAC such as northeastern Brazil and parts of Argentina, Chile, Bolivia and Peru.

Experts warn that in the coming years, water shortages and water pollution will be the most important environmental problems facing LAC, especially in areas that have the greatest population growth but limited water management capabilities. The most vulnerable regions are in northeastern Brazil and in the Andean, Central and Caribbean subregions.

¹³ FAO, 2000

The environmental impact of agriculture

Intensive animal production systems (cattle, sheep, hogs, poultry and their by-products) and specialized production systems that seriously affect the environment because they discharge untreated nitrogen and dioxide-rich organic waste into rivers. A similar situation is found in agricultural production with the use of agrochemicals, the use of which, in some cases, has reportedly increased as much as 200%. This is irreversibly altering the natural balance of surrounding ecological systems.

The felling of trees, the expansion of the agricultural frontier into fragile ecosystems, and the mishandling of the containers and packaging used for transporting agrifood products, continue to contribute considerably to the process of environmental degradation.

Political and institutional considerations

Changes in reforms

In most of the countries of LAC, economic reforms have changed the rules of the game for public and private stakeholders. State reforms have accompanied economic reforms, but at a slower pace. This can be explained by several factors, including the difficulty of balancing political interests with those of interest groups (including bureaucrats, who defend their positions, privileges and quotas of power) and of private sectors, who feel that their possibility of sharing in public revenues is threatened. Another cause is the slow and cumbersome process of legislative reform.

An analysis of the institutional framework for agriculture in the region shows that the ministries of agriculture no longer exert the same influence they once did. Several factors have given rise to this situation: i) a weakening of sectoral policies; ii) a lack of articulation among support systems (research, extension, marketing, etc.); iii) reforms of the State apparatus that have reduced the functions and dimensions of these ministries; iv) the weakness of private sector organizations; and v) the reduction or elimination resulting from trade opening.

The institutional framework for rural development, which in many countries is limited to the ministries of agriculture, is becoming weaker, at the same time that problems associated with equitable governance and the use of the natural resources in rural areas become more pressing. In many countries of the region, less is being invested in social programs in rural areas. This directly affects the standards of living, the capacity for modernization, and promotes rural-urban migration.

The rapid speed with which the private sector has assumed functions in the markets that were previously of the public domain (i.e., product marketing) contrasts with the slow progress made with the private management of public policies. This has generated institutional vacuums in a number of areas including rural funding, basic research and technology transfer to those with limited capacity to purchase such services because of low incomes, geographic obstacles or lack of information.

Agricultural negotiations and the ministries of agriculture

The new agricultural negotiations being conducted within the framework of the World Trade Organization (WTO), the negotiations under way to create the Free Trade Area of the Americas

(FTAA), and the negotiations related to bilateral and regional free trade agreements, have incorporated agriculture into their agendas, taking into account both the dimension of agrifood trade and the social and environmental considerations associated with agriculture and agrifood trade. However, in the case of LAC, the participation of the ministries of agriculture in international trade negotiation has been limited, insufficient and, in most cases, more formal than real, although they are in the best position to bring to the negotiating table the concerns of stakeholders directly affected by the application of any agreements that may be signed.

Institutional aspects of technology

In LAC, considerable infrastructure for research (mostly public) has been built up gradually over the last 40 years, and is currently in an advanced stage of consolidation. The new economic model and the State reforms resulted in a significant contraction in public investment in research. In its place, efforts have been made to foster private investment, which have not succeeded in most of the countries. This situation is very serious because most public research institutes have lost their operating capabilities, and efforts to renew their research staff or replace researchers have been largely unsuccessful.¹⁴

One outcome of this collective decision is a significant decline in the capacity of the region to generate endogenous or local know-how applicable to commercial agriculture, and in meeting the technological needs of small- and medium-scale producers. However, in some countries, such as Chile, Mexico, Brazil and Uruguay, innovative mechanisms are being developed to mobilize public and non-public capabilities for research, via the allocation of resources through competitive funds.

In LAC, it is estimated that investments in agricultural research by the private sector accounts for only 15% of total investments in research; also, much of the research conducted in the past by the State is not necessarily of interest to the private sector. This situation has reduced the capability to develop endogenous knowledge for agriculture, and consequently increased the importation of new technologies, which, in most cases, is accompanied by foreign investment. In LAC, only six countries break with this trend: Brazil, Argentina, Uruguay and Mexico are fully capable of conducting research, as are, on a smaller scale, Chile and Colombia.

¹⁴ Complete, up-to-date information on investments in technology in the countries of LAC is not available. However, the opinions of specialists from different regional agencies and governments support these statements. In research conducted by IICA, the situation for the years 1992-1993 was compared with the period 1981-1985, revealing a 10% decline. A subregional analysis demonstrated that the Central and Andean areas were most affected, suffering a 47% and 222% decline, respectively. The Southern subregion was the least affected, reporting a decline of only 3.1%.

IV. CHALLENGES FOR AGRICULTURE AND RURAL DEVELOPMENT AND PRIORITY FIELDS FOR PUBLIC POLICY

In the preceding chapters, reference was made to a constantly evolving international environment, to the concept of an expanded agricultural sector which is characterized by "leaving behind" the traditional focus on primary production, and by a rural society that is demanding new approaches for development. The institutional framework must be capable of meeting new demands, incorporating new stakeholders effectively, rethinking the functions of traditional stakeholders, and coming up with creative ways of managing public policies to promote the sustainable agricultural and rural development.

The greatest challenge, therefore, is to develop a new institutional framework, create the conditions needed for its development, and set the goals to be achieved by doing so. Although this is the responsibility of different public and private entities, the ministries of agriculture and their institutions face the challenge of leading efforts to carry it out.

This chapter also addresses some emerging issues in and specific fields for the integral management of public policies, which can contribute to making agriculture more competitive and improve the standard of living of rural populations, within the framework of a renewed institutional framework.

The challenge of developing a new institutional framework

The first generation of economic and State reforms in LAC significantly altered the institutional framework developed in earlier decades, especially the one characterized by an "intervening" State associated with the import-substitution development model.¹⁵ New circumstances for social and production matters are impacting upon this institutional framework but to date, no new management model has been adopted. As a result, we have what is called a "remnant State."

With differing degrees of intensity, reforms have been undertaken in an attempt to adapt the remnants of the earlier institutional framework to the new requirements, with both satisfactory and unsatisfactory results for both those implementing the reforms and those who will potentially benefit from them.

The greatest challenge facing LAC is the need to develop a new institutional framework for agriculture and the rural milieu, one that includes the wider universe of stakeholders involved in expanded agriculture, and the new relationships established between this agriculture and the rural milieu in which it operates. It is in this context that people, natural resources, non-agricultural activities and many economic, social, political and cultural relations, subject to national and international influences, as well as a national and international context that affects its actions, converge.

This new institutional framework for agriculture and the rural milieu must be developed by redefining the functions and responsibilities of public stakeholders, private enterprises and the

¹⁵ IDB, 1999.

organizations of civil society, so that it will be able to provide new services for agriculture and rural development, and to supply or preserve public assets that are becoming scarce and deteriorating, including natural resources and the environment.

New actors and methods of organization

One reason for a new institutional approach is the emergence of new stakeholders and forms of organization in agriculture and the rural milieu. The latter involve new forms of public-private organization aimed at meeting new demands from a wide range of stakeholders, new demands from the markets, and new types of relations among these stakeholders.

The ministries of agriculture must urgently redefine their functions. To this end, they must transfer some traditional functions to new forms of organization of private stakeholders, without discarding possible public-private partnerships. Also, they must incorporate into the services they provide the demands of a wider range of actors, such as those involved in the different links of the agrifood chains (suppliers of inputs, processors, operators of collection centers, service providers, marketers), or those who represent the different social forces growing in the rural milieu, such as farmers, women, youths, ethnic groups and NGOs.

Regarding the latter, the great challenge lies in articulating and coordinating, through the ministries of agriculture, strategic actions for rural development, many of which are the responsibility of other public institutional stakeholders, including those that deal with infrastructure, education, tourism, housing and health, etc.

Insert 7 *New trends in agrifood marketing*

The distribution of agricultural products will become concentrated in a smaller number of increasingly larger enterprises or conglomerates. In France, for example, five enterprises control 70% of food distribution nationwide. Supermarket chains will continue to expand worldwide, further standardizing consumption patterns. These chains do away with traditional middlemen, establishing relations with farmers and agroindustries, with whom they establish alliances or sign direct supply agreements (prices, quality, denomination of origin, etc.), and then gradually impose market conditions and rules. The increased negotiating strength of the chains vis-à-vis their suppliers comes from three sources: the large volumes of products they control, the flexibility they enjoy because they manage a variety of goods that they can change at will, and their direct contact with large numbers of consumers. As a result, processing industries will lose negotiating strength vis-à-vis the supermarkets, and will lose contact with consumers.

Ministry of Agriculture of Chile-ODEPA. 2000. Analisis prospectivo de la agricultura chilena. Santiago.

Management of public policy

The new institutional framework requires a renewed approach to management and application of public policies in response to a number of factors: i.) a smaller but more efficient State; ii) a broad spectrum of social stakeholders; iii) the simultaneous pursuit of different objectives, some of which must be reconciled with policies emanating from other public sector actors; and iv) new international regulations that impose new conditions and restrictions on the design and execution of public policies, whether of a general character or those specific to agriculture and rural development.

Reformulating public policies requires the development of new instruments for making sectoral policy. These must be compatible with international regulations, respond to numerous objectives and include incentive arrangements for a broad spectrum of stakeholders. In addition, it is essential to develop new capacity for analysis at the technical and political levels, and undertake a continuous process of consensus-building with other public, private and social players in the region's economies.

For private sector organizations and those of civil society, the greatest challenge will be to participate in the private management of public policy, assuming the functions delegated by the State to the civil sector and offering the required services to be able to compete in more open and competitive markets, and help to achieve a mode of development that is more in harmony with nature and more socially just.

Repositioning of agriculture and rural development in the political structures

The negative externalities observed in the rural milieu and in the agrifood sector underscore the need to rethink the role of the State in resolving what the market has been unable to do satisfactorily, from the social point of view. Therefore, the institutional changes to which agriculture and rural development are subject in LAC cannot be separated from the Hemispheric Agenda¹⁶ which includes among its main concerns the promotion of democracy, the eradication of poverty, the conservation of the environment, and a growing participation by the organizations of civil society.

¹⁶ The First Summit of the Americas, held in Miami, USA, in December 1994, established a Plan of Action that includes 4 principles: i) consolidation, preservation and strengthening of the community of democracies; ii) promotion of prosperity through economic integration and free trade; iii) eradication of poverty and discrimination; and iv) guarantees for sustainable development and environmental conservation. We also cite the Plan of Action of the Third Summit of the Americas, held in Quebec, Canada, in April 2001, which formally incorporates the topics of Agriculture and Rural Development into the Hemispheric Agenda.

Insert 8 *A country vision in reaching agreement on policies*

In September 2000, the President of Chile created the **Agricultural Board** as a forum for ongoing dialogue between the public and private sectors regarding agricultural development in Chile. Its objectives are to examine and propose the foundations of a State policy for the agricultural-forestry sector, as well as concrete measures for solving problems. The Board comprises the principal government authorities, parliamentarians, representatives of the agribusiness sector, academia, professionals, and small-farmer organizations. With a consensus on the mission of the ministry of agriculture and the principal guidelines for sectoral policy, the Agricultural Board analyzes and makes decisions on different topics related to the development of markets, competitiveness, innovation, training, rural development, etc. This modus operandi also makes it possible to address short-term problems facing agriculture and the rural milieu in Chile.

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This agenda has generated a process to reposition agriculture and rural development in the political arena, as a result of which those sectors have been taken into account in the design of public policies, thereby contributing to improvements in the quality of life of large sectors of the population and facilitating governance.

The expanded vision of agriculture allows us to appreciate—in its full dimensions—the contribution that this sector makes to countries' development. This vision also serves to revert the process of minimizing the importance of agriculture and associating it only with crops and livestock.

The necessary context for a new institutional framework

We must have an appropriate context in which to build a new institutional framework that responds to the challenges of agriculture and rural development; it is not possible to provide a satisfactory response from only a sectoral perspective. For this process to be effective, it is also necessary to include elements that extend beyond agricultural and rural matters, that have to do with citizen participation in the decision-making process, an effective State, legal protection, access to land, the sustainable management of natural resources and the environment, and the provision of necessary support services, including rural funding and investment.

The modernization processes in agriculture and the rural milieu—which contemplate increased competitiveness of these sectors within a framework of equality and improved living conditions for the rural population—require broad margins of **governance**, both in terms of a government's ability to maintain control over society as a whole and to discharge its technical and administrative responsibilities. There is an increasingly clear need to legitimize public agriculture, exercising it in a participatory and transparent manner and ensuring that policy priorities are based on broad social consensus and include the voices of all groups in the decision-making process, including those of the poorest and most vulnerable groups.

It is also essential that civil society groups associated with agriculture and the rural milieu are able to visualize their role and interests in the social consensus achieved; this will make it easier for citizens to accept the leadership of the State and of its institutions in working towards shared objectives within the framework of existing constitutional and legal regulations. In this sense, "public" is synonymous with the national interest and is not simply what a government actually does. It is important to note that governance in a nation does not occur spontaneously. It requires a continuous effort to reaffirm the confidence and trust of individual citizens and their organizations to achieve consensus and form stabilizing majorities to prevent repeated threats of disruption and social uncertainty.

For all the above reasons, the rule of law must prevail to legitimize the consensus achieved by society. There must also be a framework of legal protection or security¹⁷, as a fundamental condition

¹⁷ The legal protection provided by a State to its citizens has to do with access to justice and the transparency of laws, decrees, reforms and decisions associated with their condition and 'raison d'etre'. Legal protection recognizes the existence of rights that are exercised and obligations that are demanded. In other words, people know what can be done, what cannot be done, what others can do and recognize the competent higher authority that monitors and safeguards these rights and obligations.

for the management and application of agricultural and rural development policies. Legal protection in the rural milieu is key to reactivating investment in agriculture and in non-agricultural rural employment. For this reason, some countries need to resolve problems derived from incomplete agrarian reforms or from specific political situations that have affected the land tenure system.

Another aspect to consider is the need to modify existing **legislation** or develop new legislation, in recognition of the fact that the development model has changed, that pressure groups have been transformed and multiplied by the appearance of new players, and that legal frameworks have become obsolete and have been overtaken by the realities of a new order. This is fundamental, especially in the provision of services for an expanded agricultural sector and those related to environmental conservation, the rational use of natural resources, the creation of new incentives and policy instruments, access to land and property ownership and other elements that create a favorable climate for investment in agriculture and the rural milieu. A review of existing legislation must also incorporate the commitments assumed under international agreements already approved and those that are signed in the different spheres that now regulate trade, the environment, labor, biodiversity and intellectual property.

Providing equitable access to land for the most underprivileged populations continues to be one of the greatest challenges associated with the problems of rural poverty, particularly in those LAC countries where land is in short supply. **Access to land**—that is, to land with proven potential—should be controlled, to avoid expansionist activities that endanger natural resources or the accelerated expansion of the agricultural frontier. At the same time, it is important to provide complementary services to producers and there should be additional investment in infrastructure to support production. To meet this challenge it is necessary to promote land markets by strengthening the legal and institutional framework; establish land registration systems to ensure transparency in land transactions; guarantee secure land tenure and titling of property; and promote short-, medium- and long-term land leasing.

Financing and efforts to promote **investment** in rural areas must complement and accompany the management of public policies for a competitive agriculture and rural milieu. Rural financial markets must be developed that will respond to innovative projects that are consistent with a more competitive agriculture or with profitable activities in the rural sector. With regard to investment, it is necessary to establish mixed public-private institutions that are strong and dynamic, in order to generate consensus and to design, coordinate and implement sectoral investment strategies.¹⁸

One of the greatest priorities in this context is the need to address concerns about the appropriate use of **natural resources and the environment**. This requires the participation of **different** stakeholders and institutions, together with an effective, proactive and well-planned organization. The reasons for this are obvious because natural resources in the regions and countries of LAC have a bearing on growth indicators and poverty. Overcoming the problems that some regions and countries face in becoming competitive and generating well-being for their populations in accordance with the quality and quantity of their natural resources constitutes one of the greatest challenges in

¹⁸ These strategies should contemplate, among other things, the application of State policies for agriculture; the use of funds from investment projects and programs of specialized international institutions such as the IDB, the World Bank and IFAD; the development of rural financial markets; and the design and implementation of innovative programs (competitive funds, the use of risk capital, joint ventures and strategic partnerships).

ensuring their sustainable use. Development policies and programs are needed that take account of variables such as the quality of natural resources, climatic conditions, the risks associated with these variables and the social and economic conditions of the populations whose lives and activities rely on the use of these resources.

In many LAC countries, institutional development must take into account the frequency of extreme climatic events (i.e., hurricanes in tropical regions) and the recurrence of the oceanic phenomenon known as El Niño. However, we should not exclude the impacts of events that cause droughts and floods as a result of the misuse of natural resources.

Priority areas for public policymaking

Public policies should be based on a national agenda and on a process to build consensus among the different organizations and stakeholders involved. They should also be based on consensus reached among nations, both in the international and in the inter-American spheres. The process of the inter-American summits, in particular, is moving towards continental integration through the consolidation of democracy, economic and commercial integration, the eradication of poverty, and the conservation of the environment. These principles are mandatory for all the countries of the Americas: not just in the formal sense, but also in the spirit of American society's effort to advance towards a more equitable development. As mentioned earlier, agriculture and rural development have been included in this inter-American agenda as strategic sectors of the socio-economic system of the Americas. Thus, all these elements should be present in public policymaking in the context of the new institutional framework for agriculture and the rural milieu.

Integral policies to improve competitiveness

Improving the competitiveness of agriculture involves challenges in different areas including the definition of strategies to modernize national agriculture and sectoral policies that are consistent with macroeconomic policies and recognize the heterogeneity of the productive structure of agriculture and the need to integrate the different links of the production chains.

Competitiveness is based on the dynamic capacity of the entire agrifood chain, and of its components to maintain, expand and improve their market share, both in domestic and international markets, by introducing innovations and implementing actions that foster the conservation and sustainability of their production base, while generating revenues with which to continuously improve their living conditions.

Competitiveness should not be associated solely with large agrifood enterprises. Another great challenge, to guarantee a better quality of life and human development with equity, is to ensure that all players are involved in commercial circuits in a competitive and equitable manner. In this regard, family agriculture and medium- and small-scale businesses will not only increase their efficiency

Insert 9
Competitiveness: the factors of the macroeconomic setting

Agricultural competitiveness and performance depend to a great degree on the behavior of the exchange rate, consumers' incomes, and the interest rate. In the countries most affected by the international financial crisis, this has resulted in a depreciation of their currency, a decline in incomes, and a higher interest rate.

International Financial Crisis: Macroeconomic Linkages to Agriculture. *Journal of Agricultural Economics*, Vol. 82, No. 3. August 2000.

production, but will also incorporate into their activities non-economic aspects of competitiveness, including those related to animal health, food safety, quality control and innovation.

On the question of competitiveness, it is also important to note that there are growing pressures for companies to include environmental management and labor issues in their operations, with a view to eliminating the negative externalities generated in the agrifood sector.

Technology development

The adoption of strategies conducive to the development of agriculture based on knowledge, research and innovation, and the continuous improvement of the sector's technology profiles, is becoming a determining factor for competitive agriculture. It may also contribute to food security and to other legitimate objectives such as the responsible management of natural resources, environmental conservation, and the protection of human health. The ideal formula is an appropriate combination of technological, traditional and new knowledge, developed locally and imported and adapted to the region, as in the case of the new biotechnologies. This implies reversing the decline in public investment observed in LAC, which deepens the technological gap between this region and its competitors in other countries.

Agricultural and public health

The importance of agricultural health for a competitive agriculture is reflected in the fact that it helps to keep production costs low, reduce the risks of pests and diseases, and increase productivity. Consumers have a legitimate right to safe food, and this is an essential requisite to guarantee food sales in increasingly demanding and competitive markets. Modernization of agricultural health and food safety systems (AHFSS) is the main challenge to guarantee healthier and more productive crops and livestock; to ensure that foods are more nutritious and safe; and to promote more fluid and "reliable" international trade.

An operational strategy to address the above concerns should be based on inter-institutional and inter-sectoral coordination (for example, between health, agriculture and trade ministries and between the public and private sectors), to facilitate dialogue, analysis and the identification of priorities in this field, as well as the development and participation of all these actors in the new institutional framework for agricultural health

Insert 10
Canadian Food Inspection Agency: an institutional model for agricultural health

Created in 1977, the Canadian Food Inspection Agency (CFIA) regulates all federal programs for the inspection and protection of animal- and plant-based products. Except in the case of food safety within Canadian borders, which is the jurisdiction of the Canadian Health Agency, the CFIA administers and controls the application of 13 decrees and their implementing regulations, covering everything ranging from food safety to good labeling practices to animal health and plant protection.

The CFIA has around 4,800 employees and it controls all agrifood imports and exports. It has contributed to maintaining a sanitary status that provides Canada safety and confidence in this area. Taking into account its structure, objectives and long-term policies, the CFIA is a modern agricultural health and food safety program that can serve as a reference for many other systems in the Americas.

A balanced development of regulatory tools, institutional sustainability achieved through a human development approach, and its technical capabilities based on the use of science, provide the CFIA with considerable international prestige and leadership in agencies including the WTO, Codex Alimentarius, the International Office of Epizootics, and the International Plant Protection Convention (IPPC). In addition, participation of the private sector, civil society and other State institutions have enabled the CFIA to take articulated or participatory decisions and to respond to the principal needs of Canada's production sector.

According to IICA's criteria for a modern agency that promotes development and competitiveness, the CFIA is an excellent example.

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and food safety. The proper functioning of the AHFSS hinges on the balance of three elements: institutional framework, a regulatory framework and a technological framework, all of which interact and influence each other, and should therefore function in an integrated manner.

Development of markets and promotion of agribusiness

Policies aimed at developing agrifood markets pursue different objectives. They may be directed at diversifying supply (for domestic or international markets) through the incorporation of new products or those of value in the agrifood chain. From the standpoint of demand, this implies improving conditions of access to markets and diversifying consumer or end markets.

The effective participation of small and medium producers in the agrifood chain requires the development of a market model that strengthens the capacity of these producers for negotiation to be able to compete in the markets under more equitable terms. To make this possible it is necessary to: i) promote greater competition by creating spot markets to concentrate and freely regulate supply and demand; ii) promote the participation of new commercial agents with greater negotiating capacity; iii) incorporate technological innovation in products and processes, as a condition for agricultural competitiveness; iv) seek new forms of financing for production and marketing; and v) develop quality markets aimed at increasing prices and maintaining the economic benefits of agricultural activity in the long term.

Market development implies promoting agribusiness, organizing small and medium producers and linking agricultural activities more closely to prevailing conditions in national and international markets.

Population growth projections and the shrinking of the agricultural frontier suggest that food production must grow on the basis of sustained increases in productivity, but without neglecting commitments to the environment, food safety and quality. This conjugation of elements is one of the greatest challenges facing agricultural entrepreneurs.

Trade negotiations

The search for competitiveness in agriculture cannot ignore prevailing conditions in international trade and those associated with measures applied by trading partners. The countries that participate in international trade negotiations aspire to freer and more stable agricultural markets and to achieve this, their efforts must be based on consensus and equity in the approval and application of trade disciplines. Among the processes under way, two are of particular importance: the agricultural negotiations in the WTO and those that form part of the initiative to establish the Free Trade Area of the Americas (FTAA).

In the year 2000, the WTO began negotiations on agriculture with a view to facilitating greater market access (especially for agricultural products originating in developing countries), a substantial reduction in export subsidies, and a more rigorous discipline in the use of domestic support measures for agriculture. Discussions on matters relating to food security, as well as the effects of the reform process on the least developed countries (LDCs) and the Net Food-Importing Developing Countries should facilitate the application of effective measures –among them, a *special and differentiated*

treatment that will really favor this group of countries. The *new themes* of the agricultural agenda, including export restrictions and credits, sale of State-owned companies, food safety and rural development issues, will produce new supranational guidelines in these fields.

FTAA negotiations began in September 1998, with a specific agenda for agriculture that includes disciplines for the agrifood trade and sanitary and phytosanitary issues. The FTAA negotiations, which involve 34 nations of the Americas, is the hemispheric initiative that has made the greatest progress since it was launched in 1995. The FTAA will be the world's largest regional market and will include agrifood markets of great importance for the countries of the Americas.

Participation in these negotiations –and in others of a bilateral or subregional nature– and the administration of the trade accords, are two of the main challenges facing modern agriculture. This is because, on the one hand, they combine trade liberalization processes in several geographic areas with specific commitments that limit the degree of freedom to define national agricultural policies and, on the other, because it is essential that policymaking in agriculture be consistent with the trade policies applied to agrifood trade.

Agriculture ministries must reinforce their institutional capacity for these negotiations, not only to be able to act as legitimate spokespersons for this sector at the negotiation tables, but also to enhance their capacity for analysis, consensus-building, formulation of proposals and coordination, both with the official bodies in charge of foreign trade and with representatives of the production sectors.

Agriculture and the environment

It is important to establish a working agenda that effectively promotes the design of policies that explicitly incorporate the environmental dimension into the production processes of the agrifood system. This would be the first step towards developing an environmentally sound agriculture. It is also necessary to improve coordination (public-private and public-public), as well as investment policies and mechanisms that consider both agriculture and the environment.

Clean agricultural production

Producers of the agrifood system, along with public-sector institutions and private organizations, should include management guidelines at the national, regional and local levels that explicitly include environmental protection. It is important to begin improving our institutions by establishing regulatory and monitoring units that recognize and take advantage of the potential afforded by new regulations on clean and healthy products, such as the ISO14000 standards, food safety standards and good agricultural practices, among others. It is also important to establish policy instruments (such as incentives) to promote the adoption of environmentally sound management practices, as a signal to producers that society appreciates their efforts and is introducing compensatory economic measures designed for that purpose, in accordance with the WTO.

The modern approach to rural development is analyzed from a new perspective that goes beyond the assistance-oriented approach of the past or the compensatory focus of more recent years. Nowadays, rural development is conceived as a growth strategy based on equity and efficiency that will allow us to overcome the economic and political exclusion of the rural population, who have been bypassed by the current development model. With the well-being of the rural population as its mission, rural development seeks to respond to new economic, political, social and cultural conditions that define the rural areas of the Americas. A comprehensive vision of rural development is beginning to emerge, offering a new type of social and political administration, in which the international dimension—whether regional or global—plays a crucial role. Accordingly, efforts must continue to develop competitiveness in agriculture which, in turn, will help to improve living conditions in rural societies.

Combating rural poverty

According to population growth projections in LAC, the region's total population will increase from 519 million people in the year 2000 to 725 million in the year 2030. At the same time, the rural population is expected to decline by 5.3% (from 128 million to 122 million people). Despite this slight decline in the rural population (in absolute numbers) poverty levels will remain high unless we implement programs to provide better services for small producers, mechanisms to help communities and local authorities manage investments effectively, and pay more attention to the different needs men and women have for improving productivity, so that it can be the motor of rural growth.

The efforts and achievements of the last two decades in terms of economic growth and economic stabilization in the Americas have not been sufficient to bring about greater equity and inclusiveness. Achieving this goal will continue to be the main challenge of development policies. In the rural sphere, the basic challenge is to combat rural poverty, both among those who remain in the countryside and those who migrate to urban areas in their own countries or to more developed nations.

In the context of the new "rurality", this challenge implies: i) focusing development on people and therefore promoting the development of rural citizenship and local administrative capabilities; ii) promoting economic development—both agricultural and non-agricultural aspects—expanding alternative markets and generating non-traditional sources of income; iii) improving nutrition and health levels through access to basic foods; iv) organizing and regulating land use in rural areas and providing effective access to property titles; v) creating financing mechanisms and access to these rural areas; and vi) implementing specific actions to increase the participation of women, young people and other excluded sectors, such as indigenous communities and other ethnic groups.

Food security

Food security poses a number of challenges in terms of access, availability and distribution of food, and existing international obligations.¹⁹ Of these, access to food has been shown to be the most important, with individual income levels and a country's short-term financial capacity being the main factors in facilitating access to food.

Food availability is directly related to countries' capacity to increase the domestic food supply. In many cases, this involves a concerted effort by political authorities to improve infrastructure, provide better access to credit, promote a more efficient use of resources, encourage research and agricultural extension services, improve productivity in the agrifood sector, and reduce dependence on the international market, without sacrificing more efficient alternative uses of resources.

Management capacity

Success or failure in the design and application of public policy is based on the management and self-management capacity of relevant public or private sector institutions or organizations, but especially on the management capacity of the individuals that form part of them. Accordingly, the development of human resources through the adoption and reinforcement of values, the development of skills and abilities, access to new knowledge and to education, will improve the living conditions of rural populations, increase their productivity and enable them to aspire to better job opportunities.

From a market perspective, transforming farmers into agricultural entrepreneurs means developing their capacity to manage instruments that will enable them to confront the increasingly complex decisions to be made in agricultural enterprises, thereby improving management capabilities in agrifood activities. But this capacity exceeds what is needed to improve participation in the markets. The rural population is heterogeneous and the rural milieu includes both agricultural and non-agricultural activities, some of them with economic objectives and others with social ones. Management capacity involves the search for mechanisms to ensure the effective participation of these groups in the decision-making process.

Reforms in education and training

To improve human capital in agriculture and the rural milieu, it is necessary to modernize educational systems, institutions, mechanisms, contents and methods, and educate, train and update generations of technicians, producers and professionals.

Insert 11
Food surpluses do not guarantee food security

In 1996, the reserves of wheat and other grains could cover 53 days of consumption. Two years later, harvests increased and reserves could satisfy 65 days of consumption. Nonetheless, despite the increase in supply and the decline in food prices, hunger continues.

D. CARGUIL Bulletin, Vol. 7, No.1,

¹⁹ WTO Agreement on Agriculture; Annex 2.4. Domestic food aid

Insert 12

Strategies in progress to improve agricultural education

Three approaches are presently being followed in the Americas for improving the quality of agricultural education:

- Academic centers that have begun a process of academic and organizational transformation, with a view to improving the quality and relevance of their programs (5% of the universe of academic centers in the Americas).
- Articulation of national agricultural education systems, the formal academic supply and the training supply, organizing their work in national networks or forums that include the formal and non-formal academic sectors; they foresee the progressive participation of professional associations, agribusinesses, politicians and government representatives (a trend observed in 10 countries)
- Standing regional forums or reciprocal cooperation networks created to address the challenge of regional integration. Noteworthy among these are the MERCOSUR Forum of Deans and their counterparts in Central America and the Andean region.

An additional strategy proposed and is still being developed: the System of Standing Forums for Dialogue and the Integration of Agricultural and Rural Education in the Americas, which, at the hemispheric level is known as the Forum of the Americas or "eduagroforum."

Inter-American Institute for Cooperation on Agriculture

Meeting these challenges requires the design and implementation of education and training programs that will: i) modernize educational curricula, moving beyond the sectoral and primary extractive vision of agriculture and being more congruent with new emerging themes stemming from technological progress, open markets, the expanded role of the private sector and the new role of the State; and ii) develop mechanisms and methods of evaluation and accreditation to guarantee the quality of education, facilitating regional integration by harmonizing academic standards and the recognition of educational qualifications to facilitate the movement of professional services among different countries.

Natural resources

Policies to meet the challenges of development in LAC countries are, in many cases, complementary and not exclusive to a particular sector. Such is the case with natural resources. However, despite recognition of this fact, in general there have been few actions to address ecological environmental issues and the sustainable use of natural resources. This document highlights the importance of natural resources and, to properly address these concerns, it is necessary to consider the design and implementation of policies on the following: i) differentiated regional strategies for development, based on the quality of the natural resources; ii) cooperative information systems on land use for evaluation and decision-making purposes; iii) integrated territorial development programs; iv) effective decentralization for natural resource management and conservation; and v) inclusion of natural resources accounting in the national economy.

Insert 13

Environmental services and the trade in emissions

Although agriculture and changes in soil use, including deforestation, are responsible for 34% of the greenhouse effect, agriculture can contribute to reducing these effects by employing practices that capture carbon dioxide, through the development of a market of "ecological services." Ecological services are defined as the processes and conditions of natural eco-systems that support human activity and sustain human life, and include maintaining soil fertility, regulating the climate and naturally controlling pests. Moreover, they are determining factors for the benefits provided by ecosystems, such as food, wood and fresh water. The economic equation of businesses must begin to include an accounting of "ecological services." In this way, the market economy will be giving a responsible reply to the justified claims of concerned persons.

An example of this is the so-called "trade in emissions." In order to address climate change and the greenhouse effect, it is not only necessary to reduce emissions, but also to increase the sequestration of carbon dioxide from the atmosphere and to fix it in the soil and in land and aquatic ecosystems. Commitments to reduce emissions are beginning to be negotiated on stock markets, principally for economic reasons. This can lead to a global reduction of emissions, and the excesses of some in some production activities would be compensated for by the sequestration of gases in others.

NATURE (May 11 2000) and Inter-American Institute for Cooperation on Agriculture

V. IMPLICATIONS FOR IICA'S TECHNICAL COOPERATION AGENDA

This chapter discusses the areas of action for international technical cooperation derived from the great challenges identified in Chapter IV which, in specific terms, may serve to define a work program for the Inter-American Institute for Cooperation on Agriculture (IICA).

The challenge of building a new institutional framework for agriculture and rural development in the hemisphere is a task of great magnitude that requires contributions from international technical cooperation that exceed the capacity of IICA and of any individual cooperation agency. This suggests the need for cooperation agencies and financial institutions to work together to define the fields and activities on which they should concentrate their efforts and resources and identify areas and modalities of inter-institutional cooperation, similar to the initiative in which IICA has been participating to define strategies and actions to combat rural poverty.

The opportunity that presents itself to IICA, at this point in its institutional history, is invaluable due to the conjugation of four elements:

First: in the context of the inter-American summits, mandates have been given to coordinate hemispheric strategies for responding to the main development challenges of the countries of the inter-American system. For the first time, agriculture and rural development have been specifically included in the inter-American agenda, with instructions that the Inter-American Board of Agriculture (IABA), IICA's highest governing body, will be responsible for these areas.

Second: a resolution of the Organization of American States (OAS)²⁰ recognizes IABA as the highest-level inter-American forum for the discussion of matters of importance to inter-American agriculture and the definition of strategies leading to its improved development.

Third: in accordance with the mandates of the Heads of State and Government, the main multilateral financial agencies have revised their agendas and have assigned top priority to efforts to combat poverty and promote improved living standards in the rural areas of the Americas.

Fourth: the new Director General of IICA will be elected at the upcoming meeting of the IABA. He will have the task of formulating the Institute's new Medium Term Plan for 2002-2006. It should be noted that new game rules of the hemispheric and worldwide agrifood trade will be implemented during this same period, both in terms of the creation of the Free Trade Area of the Americas (FTAA) (a task due to be completed in 2005) and in the multilateral sphere, where it is possible that current WTO negotiations on agriculture will conclude.

²⁰ Resolution 1728 of the OAS General Assembly: Strengthening and revitalizing ties between the Inter-American Institute for Cooperation on Agriculture and other OAS organs to address agricultural issues of Hemispheric concern. June 2000.

Building a new institutional framework

In the process of building a new institutional framework for agriculture and the rural milieu, two tasks are of particular importance for IICA: to reposition agriculture and to redirect institutional reform. The Institute should support these tasks, not only because they set a course for drawing up new game rules in line with the specific mandates for agriculture and rural development issued at the Third Summit of the Americas and the corresponding plans of action, but also because they are necessary conditions for the reforms that must be implemented.

Support to the process of repositioning agriculture and rural development

The urgent task of repositioning agriculture in the hemispheric and national political agenda must include a reappraisal of the many contributions made by this sector not only to the countries' economic development, but also to society, culture, nutrition and to the governance of the political systems themselves.

IICA's role can focus on two fronts. The first is to promote inter-American dialogue in response to the specific mandate to support the process of the Inter-American Summits. To do this, it is necessary to facilitate a process of discussion and work at the hemispheric and national levels and to move forward in the implementation of the plans of action for this process. A second front of action, which is linked to the first, should take place within each country. Here, IICA's action should be aimed at facilitating efforts to build consensus with respect to the definition of policies that affect agriculture and rural development.

IICA can use its authority in this field to propitiate a series of meetings among the leaders of the public and private sectors, of academia and of civil society organizations, for the purposes of analysis, discussion and work. This effort will help to develop a fuller appreciation of the many contributions made by agriculture to the development of the countries and will facilitate the adoption of agreements on public policies to modernize agriculture and improve living conditions in rural areas.

It is important to recognize the heterogeneous nature of agriculture and the rural milieu at the inter-American level and the many interests that converge at the subregional level. These are usually associated with integration processes and similar initiatives that seek to unite the efforts of countries having common interests and similar circumstances. IICA should be supported by --and should support-- regional forums such as the Central American Agricultural Council (CAC), a political forum; the Caribbean Agribusiness Association, a business forum; and other specialized forums such as the Regional Forum for Agricultural Technology (FONTAGRO), the Forum of Deans of Schools of Agricultural Science of the Southern Cone Common Market (MERCOSUR); and the Andean Forum of Agricultural Health (FASA).

Support for the reorientation of institutional reform

The conclusions of assessments conducted so far indicate that the institutional framework responsible for agriculture and rural development in LAC is in a weakened condition. This preliminary conclusion is based on the fact that the institutions are not adapted to the circumstances of a fledgling

development model that exposes countries and production agents to international competition, favors the functioning of markets and the private sector, reduces and reformulates the State's role in the economy, and defines policies and regulatory frameworks at the supranational level, in a context of dynamic and dramatic change.

Another conclusion is that the institutional reforms undertaken by the majority of the countries in the region are out of step with new economic policy. These reforms lack a comprehensive vision of the new roles of public and private stakeholders and many agricultural institutions have been modified primarily in response to efforts to reduce public spending, without taking into consideration all the components of an expanded agricultural sector and the new circumstances of the rural milieu in LAC.

For this reason, we suggest the need to review the processes of institutional reform that define new game rules, new roles for public and private stakeholders, and new mechanisms of interaction between State, market and civil society. The result of these reforms should create a balance that ensures environmental conservation, equity and governance of the political-democratic system.

Below we offer some guidelines showing how IICA can contribute to the construction of a new institutional framework for agriculture and rural development.

Incorporating the approaches of the expanded agricultural sector and the new rurality

These approaches are not adequately reflected in the policies, standards and structures of public and private agricultural organizations and in the rural milieu. The *functionalist* and *sectoral* vision of agriculture, which is restricted to crops and livestock, corresponds to an earlier concept. Its narrower view limits the use of integral policies and actions to implement development strategies for the agrifood systems or chains, and which extend the scope of agriculture to include the transformation of raw materials, the incorporation of services, and marketing in domestic and international markets. In addition, it does not provide for effective solutions to the problems associated with rural development, such as combating rural poverty and exclusion, developing social capital, promoting linkages between agricultural and non-agricultural activities, and monitoring the impact of the interaction of these activities with a sustainable use of natural resources and conservation of the environment.

The challenge for IICA's technical cooperation is to support countries in their efforts to introduce the focuses of an extended agriculture and the new rurality into the public and private institutional framework. For this, it is necessary to undertake technical cooperation actions on several fronts, as outlined below.

Modernizing the ministries of agriculture

IICA can support the countries in the process of modernizing their ministries of agriculture, based on a definition of critical competencies²¹ they should have, taking into account the new context and the

²¹ As part of its ongoing support to the inter-American dialogue and Summits process, IICA is carrying out a study (an inter-American consultation) among leaders of this hemisphere's agriculture, on what they consider to be the critical aspects of agriculture, and this study includes a query on the critical competencies of the ministries of agriculture.

challenges of expanded agriculture and the rural milieu. This modernization should be the first step in a process which, in a gradual manner and with a comprehensive perspective, should encompass the participation of institutional stakeholders, such as organizations specializing in research, plant and animal health, food safety, agrarian reform, irrigation and drainage, development banking, and so forth.

IICA should demonstrate its excellence, experience and ability to contribute to the formulation and implementation of technical cooperation actions which enable modernization of the Latin American and Caribbean ministries of agriculture. For this, there is a need to promote greater coordination with multilateral and government institutions which share concerns about institutional shortcomings in the countries, and which allocate important amounts of resources to funding institutional reform for agriculture and the rural milieu.

Improving the management of public policies

IICA can play a significant (though not exclusive) role by cooperating with organizations involved in agricultural and the rural milieu. This support can be provided through institutional strengthening for the development of analytical and project formulation capabilities, including those that have an impact on agriculture but are designed and implemented by other institutional actors (such as the ministries of the treasury and of planning, central banks, economic cabinets, etc.) and those that come directly under the responsibility of the ministries of agriculture. For this, not only is there a need to support improved consensus building within the government as well as between the government and private actors, but also to develop linkage mechanisms for implementation of public policies, whether directly through State action or indirectly by fostering private management of public policies.

Fostering the empowerment of private organizations

In expanded agriculture, private organizations must be restructured, gradually leaving behind their functions as lobbyists with public entities to become true organizations providing a range of services to their members. This change of functions and roles will enable a more effective and efficient participation by private actors, both in the management of public policies and in providing the services their members require to compete in more open and competitive markets.

In the area of rural development, civil society organizations also need to modernize, so as to be able to participate efficiently in the process to define policies that affect them, to adopt a proactive approach and to exercise oversight of the actions of the State and the private sector. This is an interesting area for IICA to expand its present activities to promote private organizations and networks of private organizations and civil society.

Incorporating the new international institutional framework

The WTO agreements and other bilateral or subregional trade accords, as well as supranational agreements signed by countries on various subject areas (environmental, labor-related and social), affect the development of expanded agriculture and its rural milieu; they serve as parameters that public and private actors in LAC must abide by.

These rules, which are dynamic²² in nature, require new institutional capabilities in the countries. This means that these rules must be internalized by stakeholders in their actions, in the process to define agricultural and rural development policies, in their use of instruments to implement public policies, and in trade relations among countries and among stakeholders.

IICA has an interesting history of support to the countries in this field, first through broad dissemination of the agreements and their implications, and then via capacity building for negotiations. More recently, it has facilitated dialogue and disseminated information among agricultural negotiators and interested sectors of society²³, and is starting to encourage thinking on new themes in agricultural negotiations.

This task should be deepened and expanded for several reasons. First of all, because negotiations are ongoing, the countries require continuous support for training, research, information dissemination, and the strengthening of mechanisms for dialogue among actors directly involved in the negotiating process and in managing the agreements. Second, demand for services has increased not only because of new topics that require new types of knowledge and specialization, but also because the complexity of negotiations has increased and today a larger number of stakeholders are involved in them, including agribusinesses and private as well as non-governmental organizations (NGOs) with diverse interests.

The above requires that countries strengthen their cadres of analysts and negotiators, as well as their systems to generate and process information and their follow-up mechanisms for the negotiation and management of agreements; they will also have to update or create new national legislation.

²² For example, a new set of trade rules is being defined in the process of establishing the FTAA, and others will be forthcoming from the process of agricultural negotiations in the framework of the WTO.

²³ IICA created and operates an electronic forum (INFOAGRO.NET) which has special windows to disseminate information and facilitate dialogue on themes such as trade, technology, plant and animal health, and rural development. IICA also participates, together with FAO, in the work of the Technical Secretariat of the Informal Consultative Group of Agricultural Negotiators of the Americas, known as GINA.

Improving the effectiveness of services

The range of services required by expanded agriculture to compete in more open and de-regulated markets has broadened significantly; at the same time there are changes in the technology to produce them, in the ways they are provided, in the modes of accessing them, and in the actors involved. The range of services must broaden even further as we include the services required by the rural population and those stemming from the relations between production processes, people and the environment (such as environmental services).

In the process of State reform, the public agricultural sector has been decentralizing its services (to be provided by specialized institutions) or transferring functions to actors in the private sector and civil society. However, the State must ensure the development of an efficient service market and the effectiveness of services provided by the State itself. It is incumbent on IICA to support efforts by the countries to improve services for agriculture and the rural environment, and in this context the Institute should strengthen the documentation, dissemination and transfer of successful third-country experiences.

Supporting decentralization and participation by civil society

The problems of rural development are much broader than those concerning production by small farmers; rural poverty requires comprehensive institutional approaches, not merely assistance-oriented policies. Ensuring the rational and sustainable use of natural resources requires not only State action but also awareness and decisive action by private firms, people living in rural areas, local government and civil society groups. For all these reasons, it is absolutely necessary to develop institutional mechanisms that ensure participation by organized civil society, and to increasingly decentralize decision-making and resource allocation, making them the responsibility of local and regional agencies closer to the problems that need to be addressed.

Through the Inter-American Center for Rural Development (CIDER), IICA has fostered a new conceptual framework on rural issues and new methodologies; it has modified its working approach and has established inter-institutional alliances to provide a more adequate response in terms of cooperation to improve living standards in rural areas. Such work can be strengthened and focused in a specialized manner, through an intelligent division of labor among institutions involved in this inter-agency effort.

IICA's actions in high-priority areas of public policy

The scenarios in which the different agricultural realities of LAC will coexist in the coming decade provide a clear indication of the content, focus and form required of IICA technical cooperation with the various categories of countries, for successfully bringing about sustainable agricultural development.

First of all, it follows that emphasis should be placed on the design and promotion of a suitable institutional organization for attaining the objective of sustainable development, minimizing transaction

costs in all fields of agriculture and its rural milieu. For this, the systemic competitiveness of agriculture must become the guiding theme for IICA's actions. This requires the development of an appropriate institutional environment for successfully dealing with the typical problems of production and trade, and that is also capable of addressing social and environmental objectives.

We will now identify the fields where IICA can support public policy formulation and implementation, under the two areas set out in the presidential mandate of the Third Summit of the Americas.

Improvement of the competitiveness of expanded agriculture

Organizations associated with the inter-American summits process, such as IICA, have a mandate to improve agriculture in the countries of the Americas as an immediate and urgent responsibility. The following are several areas for action, linked to the high-priority public policy areas identified in the previous chapter, where IICA can provide technical cooperation.

Policies to promote competitiveness in agrifood chains

Policies to improve competitiveness should address agrifood chains as a whole, rather than being based on a partial approach to their different components. There is a need to define the responsibilities of the State, beyond that of providing a stable macro-economic framework, and to determine which actions should be the responsibility of private actors. Formulation and implementation of these policies should begin with objective assessments of the status of agrifood chains, and consensus should be built around those policies and actions. IICA has developed methodologies of analysis, dialogue and action which have enabled it to accrue experience on their implementation in several LAC countries. The Institute should continue to provide support to efforts to build consensus and foster dialogue among stakeholders, as well as training in the use of those methodologies.

Promoting market access

Policies to liberalize trade and to enhance the competitiveness of agrifood chains require, as a necessary complement, ensured access to markets. To this end, trade negotiations, clear rules of the game for boosting agrifood trade flows and timely information for decision-making are necessary for market access.

IICA has a mandate to support the countries as they prepare to participate in agricultural trade negotiations under the FTAA and the WTO. This will require ongoing actions to promote dialogue and information exchange through GINA and the INFOAGRO network, conduct research to identify criteria on how to address new themes in negotiations, and provide training.

Developing domestic markets

Trade liberalization is a two-way street, in which producers experience increased demand for their products and enhanced export opportunities, but must also compete against imports in domestic markets. For many rural actors in the Americas, the existence of poorly developed markets (in certain rural areas there simply are none) limits the development of agribusiness.

IICA has promoted the establishment and interconnection of agricultural commodity exchanges to foster more efficient and transparent trade. This requires stock-exchange instruments that allow stakeholders (buyers and sellers) to reduce their risks and enhance their benefits. The Institute should continue its efforts to promote the development of new instruments that improve funding for agribusiness; it should also disseminate successful experiences, provide training and apply information analysis tools for improved decision-making in this area.

Furthering agribusiness

Establishing a favorable environment and building capacities for agribusiness, especially for small- and medium-scale producers, is a field of action where IICA could increase its current efforts by strengthening its relations with national organizations responsible for this sector and for promoting foreign trade. Valuable experience from programs to "create exporters" and to strengthen agribusiness networks could be supplemented by actions to upgrade agribusiness management capabilities, as well as to foster strategic alliances among private actors to enhance their competitiveness in global markets.

Innovation: a key factor in competitiveness

In order for the agro-industrial chains of the countries to be based on *technological innovation* they will have to make a major effort to introduce, in national and regional political agendas, changes in their institutional models and programs for technology generation and transfer. There is also a need to foster production practices that are truly compatible with the environment and with natural resource conservation, in a hemisphere that displays vastly different natural resource endowments and vulnerability to extreme climatic events.

In this connection, IICA has the opportunity to develop technical cooperation programs for *technological innovation systems development and natural resource conservation and management*.

Seeking additional resources for agricultural research

In the field of technology, there are important shortcomings in the availability of transnational public goods that benefit major regions of the hemisphere, and national public goods. To overcome these funding problems, it will be necessary to support cooperative efforts to conceptually and operationally internalize technological integration, overcome the inertia of present models and the limited capacity of national institutions to incorporate technology, and build stronger partnerships with international institutions.

Support for technological integration among the countries is envisaged as a strategic action for IICA. In this connection, two initiatives stand out. The first is participation in subregional mechanisms such as FORAGRO, FONTAGRO, cooperative technology development programs (the "PROCI's"), and regional research centers. The second seeks to facilitate the countries' linkages with international research systems, especially those of the Consultative Group on International Agricultural Research (CGIAR). This action is in accordance with the basic principles of the Plan of Action of the Third Summit of the Americas, which calls for dialogue and the building of consensus in scientific and academic fields.

Producing with clean technologies

One new market trend is an increasing preference for food products that are produced under high sanitary standards, and these production processes be environmentally sound. Such trends are strengthened by new international trade rules. IICA should promote the design of national strategies and policies to accommodate to these new trends, paying special attention to similar technological innovation processes. In this connection, programs can be promoted to strengthen agrifood systems based on Best Agricultural Practices (BAP), environmentally clean agriculture, organic agriculture, eco-labeling, and life-cycle analysis, among others.

For this, IICA can contribute to strengthening institutional mechanisms that facilitate linkages among private and public agents, and to ensuring that agriculture moves toward cleaner and more sustainable processes.

Ensuring agricultural and public health

Currently, agricultural health and food safety (AHFS) is a fragmented system due to imbalances in technological capabilities, regulatory mechanisms, and institutional sustainability. This situation makes it difficult to carry out actions to improve food security, public health, food safety and quality, and to foster agricultural trade. The great challenge is to develop an AHFS system that generates confidence; to this end, it is necessary to transform the roles of actors throughout the agrifood chain, and for them to share responsibilities.

Promoting integration and linkages among public and private sector actions is crucial for attaining the above. In addition, in this field, an integrated approach to all links of the agrifood chain is required for decision-making to be based on scientific criteria, for promoting standards that are consistent with international regulations, and for taking into account the importance of public health, the environment, trade, competitiveness and tourism. Transforming AHFS requires domestic, regional and hemispheric actions. IICA has promoted this through the *Executive Series for Leadership in Food Safety*. In a series of seminars that go beyond technical training to provide state-of-the-art tools for policy formulation on this issue, it is working to create a hemispheric, interdisciplinary network of leaders in the field. The program is governed by three objectives: i) to provide state-of-the-art technical information; ii) to enhance individual leadership abilities, and iii) to set up an extensive network for effective cooperation on this issue.

Similarly, the AHFS systems have a limited perception of emerging issues that are closely linked to competitiveness, market access, and the protection of public health, plant and animal health, and the environment. The absence of early detection mechanisms can result in substantial economic losses, especially given the significant increase in movement of people, products and animals as a result of trade liberalization.

Investing in human resources in expanded agriculture

IICA must develop, disseminate and promote the use of systemic approaches to the training of human resources required for agricultural and rural development. These approaches should contribute to understanding and taking action in the relevant institutional framework, considering that a number of public and private institutional stakeholders, and not just the ministries and specialized agencies, are interested in this high-priority issue.

IICA will be responsible for conceptualizing, further developing and implementing innovative forms of technical cooperation that stimulate and facilitate horizontal cooperation within and among the countries. Such is the case of the inter-American system of Standing Forums for Dialogue and Integration of Agricultural and Rural Education (*eduagroforum*), which facilitates direct and reciprocal cooperation between universities in the United States and Canada and those in LAC. It also includes four sub-regional and twelve national forums.

This mechanism will enable them to reinforce their own resources, and will also contribute to the transformation of educational systems based on the experience of the members, both from the organizational perspective and with regards to contents and methods (in the latter case, especially distance education).

This needs to be backed by an upgrading of the Institute's working and practical alliances with other agencies that it can work together with to support professional education, training, and the updating of human resources on strategic topics. This can include the IDB, the World Bank, the OAS, and organizations of middle- and higher-level academic centers, and selected universities.

IICA should also design new cooperation strategies and further its support of efforts to update existing curricula, both at the university level and in technical-agricultural schools, with the aim of helping them adapt to the countries' specific needs and to new issues stemming from technological progress, trade liberalization, the more prominent role of the private sector, a new role for the State, and hemispheric as well as sub-regional integration processes.

Promoting information as a strategic tool

Competitiveness in agriculture requires an efficient use of production factors: land, capital, labor, and, especially, knowledge. This requires timely access to information for each of the links in the agrifood chain. Information is a new asset of production, a true strategic resource for agricultural organizations or firms; market intelligence is facilitated by access to new information technologies. Electronic commodity exchanges, virtual storehouses for agricultural inputs, and direct commerce

relations between producers nationally and internationally via the Internet, have all created e-commerce, a new way to sell that is growing rapidly due to the requirements of the global economy.

The possibility of remote LAC rural communities benefiting from technological progress that provides access to and facilitates the exchange of relevant information is a strategic means of introducing new forms of production that make use of these new information and communication technologies. It is also key to fostering the planning, development and maintenance of local information systems that produce sufficient timely and reliable information for meeting the needs of rural inhabitants.

It would be appropriate for IICA, which has been working at those two levels, to continue developing networks to facilitate access to and the exchange of information, and to design instruments for processing and analyzing such information for use in decision-making.

Improving the standard of living in the rural milieu

Production efficiency and equity are inseparable goals of economic management in the rural milieu. The search for competitiveness, as a strategy for tapping market opportunities, should also be an objective of rural development, but the complex and multiple nature of the rural economy must be taken into account. Furthermore, in order to help expand the possibilities of the rural population, the strategy to improve competitiveness should give a key role to the distribution of production assets, the adaptation and transfer of technologies, and the strengthening of production linkages. IICA's technical cooperation agenda includes areas to improve the competitiveness of expanded agriculture and to promote rural development from a renewed territorial perspective. This should continue to be strengthened, given the ever closer inter-sectoral linkages in the rural milieu.

Integrated policies to improve the standard of living in the rural milieu

Policies to promote modernization of the rural milieu and to overcome rural poverty require considerable amounts of funds, which usually surpass the possibilities of national treasuries. During the 1990s, supplementary funds available from multilateral banks contracted significantly. However, the agendas of multilateral banks have recently been revised, and allocation of resources for rural development and to combat poverty is once again a high priority. This is especially important for the region, since LAC does not have the abundance of resources of the more developed countries to support rural development policies, which can channel enormous amounts to agricultural and non-agricultural activities, enabling rural communities to be economically viable and the population to remain in those areas.

Quite the contrary, the financial constraints of LAC governments are combined with institutional shortcomings, including inadequate mechanisms for inter-institutional linkages, elimination of traditional instruments of agricultural sector policy, and reduction of public investments and services in the countryside. This makes it more difficult to develop comprehensive strategies to improve the standard of living in rural areas. It also means that there is a need to strive to generate an institutional synergy that impacts on the conditions required to overcome rural poverty and backwardness, notwithstanding limited resources but with much imagination and a creative spirit.

IICA can help the countries build a new institutional framework for rural development policy that will enable them to shape and implement integrated strategies to modernize agricultural and non-agricultural activities, to promote a rational use of natural resources, and to help channel initiatives and participation of the various economic and social agents: small-, medium- and large-scale producers, specific population groups (rural women and youths, ethnic groups, environmentalists, etc.), merchants, industrialists, investors, service providers, and governmental as well as non-governmental organizations.

As part of the new international, sub-regional and national institutional framework, and in a joint effort with the countries, IICA has been supporting an inter-agency initiative²⁴ to combat rural poverty. IICA's infrastructure and institutional mandate provide an opportunity to facilitate hemispheric dialogue through an exchange of national experiences, support for project formulation, the upgrading of managerial capabilities, and conceptual support to the development of comprehensive policies to combat rural poverty.

IICA should increase its participation in inter-agency efforts to develop new policy instruments and approaches, as well as new projects on issues including:

- Strategies to combat rural poverty
- Land market development
- Development and modernization of rural markets for agricultural products
- Development of service markets for agriculture and related activities
- Development of modes of rural funding
- Development of subsidy mechanisms (without influencing relative prices) to promote investments geared toward capitalization and modernization of agriculture through, for example, irrigation works, soil rehabilitation, and reforestation projects
- Development of programs to promote production and support marketing

Keeping track of food security

Although as a region LAC is a net food exporter, food security continues to be a high priority issue on most of the countries' political agendas, especially when considerations affecting both demand and supply are taken into account. On the demand side, we have a growing world population that needs to be fed, with major differences in the capacity to access (purchase) food. On the other hand, supply is subject to various production constraints, such as degradation of natural capital, limited adoption of technological advances to improve yields, growing climatic instability, greater exposure to extreme climatic events, and greater trade distortions due to subsidies and State support to production and exports.

Food is and will acquire even more strategic importance, and for that reason markets and supply have to be ensured. However, traditional policy instruments to attain this goal (price policies, import controls, tariffs, subsidies to production, consumption, and interest rates) have lost validity. For

²⁴ Along with organizations including the IDB, the World Bank, FAO, and IFAD, which are significantly involved in the process.

reason, a different type of instrument for intervention and facilitation needs to be developed, in line with new international rules and the present economic paradigm, in a context of open regionalism.

IICA has been playing, and can continue to play, an important role in the development of stock-exchange instruments to facilitate trade and funding for food production (such as commodity exchanges, hedging mechanisms, etc.). It has also worked to conduct analyses and disseminate information on the situation of the food market. IICA can take advantage of its position as an inter-governmental body and a competent, neutral interlocutor to promote discussion forums on technical problems pertaining to food production and trade and on issues of concern to net food-importing countries and small economies. The aim will be to foster development of national strategies and strengthen negotiation capabilities under the WTO and the FTAA.

Providing sustainable approaches for the management of natural resources

It has been difficult for LAC countries to develop production patterns that are compatible with the environment and natural resource conservation, in a hemisphere with such wide differences in natural resource endowment and vulnerability to extreme climatic events. This heterogeneity makes it difficult to compete on an equal basis.

IICA's actions have been geared toward supporting the countries in two related areas: i) natural resource (with emphasis on soil and water) and genetic resource conservation; and ii) integrated management of water resources for agriculture. With the territorial approach, the first area envisages the soil as a place for producing and for living, deterioration of which has an impact on all other resources and increases vulnerability to extreme events. The second refers to the protection, management and conservation of water, both in terms of quantity and of quality. The demand for water grows according to population growth and the development of economic activities, while water availability remains constant. Agriculture (rain-fed or irrigated) and vegetation generally are the main consumers of water, given the great they require per unit of plant product (1000:1).

Another important issue is forest resources, which may well be the main factor for ensuring watershed sustainability, as well as the basic resource for an important economic activity. In some regions, natural forest resources are the source of biodiversity and of the genetic resources of the future; they are also an important factor in water balance and the exchange of carbon and hydrogen for the world. IICA's programs view forest resources as important for the conservation of soil and water, but the Institute should not exclude the possibility of working in the areas of production and conservation, in association with international or regional organizations such as the Tropical Agriculture Research and Higher Education Center (CATIE).

Policies that would contribute to a suitable management of natural resources were discussed in the previous chapter. In its action strategy, IICA can support policy formulation for the decentralized management of water resources through technical cooperation projects or components of national projects. Actions in the countries will make it possible to develop and exchange experiences through horizontal cooperation and local, regional, and hemispheric dialogue. The sensitivity of the poorest LAC countries to natural resource conservation and management issues is low: they react to emergency situations but they are timid when it comes to prevention. This is an area suitable for IICA action, one that requires substantial attention.

Developing management capacities in the rural milieu

In order to increase participation and the leadership of rural communities in rural development, it is necessary to adjust public management in those communities at municipal, regional, and national levels. Participation in decision-making encompasses issues that pertain directly to community development and the political-institutional environment. IICA can support the member countries in conducting trials and tests to determine the best way to empower all actors and to ensure greater effectiveness in rural investments.

IICA is in a singular position to facilitate linkages and to coordinate the rural development actions being implemented in the countries by international organizations, and to promote the participation of rural communities and their specific groups in public policy design and discussion. A requisite, however, is that the various international agencies share a common and consistent approach among themselves and with the countries. This coordination of efforts would enable the key actors involved in development to improve their communication with each other and to increase their resource leverage capabilities.

Promoting the new rural institutional framework

In contrast with the dominant public institutional framework in rural areas, there has been an ongoing process to strengthen the local and territorial public institutional frameworks. Decentralization is the current adjustment process. The granting of autonomy to municipalities and the redistribution of responsibilities have given rise to a new mode of public management and to new relations between civil society and the State, as well as a new sense of political participation. However, this process has had varying results, which have required certain adjustments recently, given the difficulties of institutional transformation and an awareness of the shortcomings of existing social capital.

Along these lines, IICA should channel efforts to support the process to decentralize institutional systems by promoting the involvement of local stakeholders and by increasing their decision-making capacity. The heterogeneity of rural areas requires that special instruments be included in rural development policy, such as compensation measures, which will make it possible to address the investment costs of agribusinesses in the rural milieu, and to attach special importance to those which have an impact on the development of human resources.

IICA's agenda could include support to the development of mechanisms that contribute to developing funding models for the rural sector. The experience of regional institutions of LAC in this connection can be tapped.

This new institutional approach requires the development of mechanisms for inter-institutional and inter-sectoral linkage to facilitate the involvement of both public and private organizations. As leaders of development in rural areas, the ministries of agriculture are the first choice for setting up such mechanisms, and that will involve strengthening them and positioning them for this purpose. Clearly IICA can support such a process.

ANNEX

ANNEX 1: TOWARD A NEW INSTITUTIONAL FRAMEWORK FOR AGRI-FOOD AND RURAL DEVELOPMENT

NEW SETTING



CONCEPTUAL FRAMEWORK FOR ADDRESSING IT



WHERE ARE WE?



THE TASK AHEAD

- INTERNATIONAL**
- MACROECONOMIC SITUATION
 - AGRI-FOOD MARKETS
 - NEW TECHNOLOGICAL PARADIGM
 - ENVIRONMENTAL CONCERNS
 - NEW INTERNATIONAL INSTITUTIONAL FRAMEWORK

INTER-AMERICAN AGENDA

- POLITICAL MANDATES
- First Summit (Miami, 1994)
 - Second Summit (Santiago, 1998)
 - Third Summit (Quebec, 2001)



- CHANGES IN MODELS AND APPROACHES**
- CHALLENGES AND OPPORTUNITIES



EXPANDED AGRICULTURE



NEW RURALITY

CORNERSTONES: Factors of a new function of production



PERFORMANCE OF AGRICULTURE AND RURAL DEVELOPMENT



CHALLENGES AND PRIORITY FIELDS OF ACTION

ANNEX 2: THE CORNERSTONES OF THE EXPANDED AGRICULTURAL SECTOR AND THE RURAL MILIEU: A NEW FUNCTION OF PRODUCTION

CORNERSTONES SCOPE VECTORS	ENVIRONMENT AND NATURAL RESOURCES	PHYSICAL CAPITAL	HUMAN RESOURCES	TECHNOLOGICAL INNOVATION	POLICIES AND INSTITUTIONAL FRAMEWORK
Hemispheric mandates: First Summit Second Summit Third Summit	Conserve the environment and promote sustainable development	Development of hemispheric infrastructure	Education as the key to progress. Eradication of poverty and discrimination	Hemispheric cooperation in science and technology Development of environmentally sound, efficient and effective technologies	Preservation and strengthening of democracy, justice and human rights Prosperity through free trade and regional integration Modernization of agriculture and improvement of the rural milieu
Changes in models (new approaches)	From extractive development to sustainable development Regional alliances for sustainable development Internalization of environmental costs	From closed integration to open integration Cooperation in the field of energy	Improve access to education. From social expenditures to investments in human capital.	From the green revolution to the biotechnology revolution From information and research as public goods to the appropriation of knowledge From isolated information to information systems	From dictatorships to effective democracies More market and less State; overriding importance of macroeconomic equilibrium From import substitution to trade liberalization and open regionalism Strengthening dialogue, participation and civil society Rural areas and new rurality
Challenges and opportunities	Rational use of ecosystems, natural resources and biological assets Reduction of vulnerability	Development of basic infrastructure needed for competitiveness and rural development Re-investment in agriculture	Improve access to health and education. Improve management capabilities. Foster non-agricultural rural employment	Fostering clean production systems Ensure the transfer and access to new agro-biotechnologies	Growth with equity New institutions, new stakeholders and new forms of participation New assessment of the value of agriculture Market development and improved access Combating drug traffic and illicit crops

PERFORMANCE OF AGRICULTURE IN THE HEMISPHERE

ANNEX 3: REVEALED COMPARATIVE ADVANTAGE (RCA) INDEX FOR AGRIFOOD TRADE IN THE AMERICAS

Methodological Framework

In order to evaluate the current situation, evolution and relative position of the countries in agrifood trade in the Americas, the revealed comparative advantage index was calculated for groups of products and for agrifood trade as a whole. RCA is calculated by on the basis of international trade data, the premise being that the current trade flow reflects relative costs and differences between countries regarding specific factors, such as the opportunity cost of domestic resources and others related to competitiveness whose prices are not necessarily determined by the market. Given the structure of domestic and international demand, RCA describes the way in which agricultural production competes for domestic resources, in comparison with other goods produced and marketed by the given country. It also shows the country's capacity to compete in the international market. The index is calculated using foreign trade statistics and reflects the influence of factors such as trade policies, foreign exchange revenues, relative efficiencies and market structures. When there is a revealed comparative *disadvantage* (RCD) this means that the domestic supply is insufficient to satisfy the domestic demand for food, and must then be complemented by the international market. Generally speaking, when there is an RCA in a product it means that a country's exports exceed imports. The opposite is true when there is a RCD. Furthermore, the greater the value of a product's RCA, the more competitive it is in the international market. RCA was calculated as the annual four-year average during three periods: 1988-1991, 1992-1995 and 1996-1999.

In the tables, the countries are placed in one of four categories, depending on whether they had revealed comparative advantages or disadvantages in the base period (1996-1999) and, in the case of advantages, whether these improved or worsened during the three periods analyzed. In each category, the countries are presented in descending order, according to their relative position in world trade with regard to the relevant group of products. The tables also show average annual trade for each group of products (exports + imports), for the last period (1996-1999) of all the countries included in each category, as well as their relative weight (as a percentage) in the annual average traded by countries in the western hemisphere. Also calculated for each group of products was annual average growth in world demand (imports) during the period 1988-1999. Included in Table 2 are the most important groups of products in trade in the Americas, excluding live animals, leather and hides, fibers, oilseeds, and roots and tubers. It should be noted that if a country appears in Table 1, for example, in the quadrant of improving revealed comparative advantages, it should also appear in the same quadrant of one of the groups of products in the next annex.

RCA by group of products in the Americas (1988-1999)

FRUITS AND VEGETABLES Average annual growth in world demand: 4.25%		CEREALS AND PREPARED PRODUCTS Average annual growth in world demand: 3.65%		
	GROWING (Improving)	DECLINING (Worsening)	GROWING (Improving)	DECLINING (Worsening)
POSITIVE (Revealed Comparative Advantage)	Belize Saint Lucia Bolivia Argentina Peru Nicaragua Brazil Haiti	Saint Vincent and the Grenadines Dominica Ecuador Costa Rica Panama Chile Dom. Republic Guatemala Honduras Jamaica Mexico Colombia Uruguay Suriname United States Grenada Paraguay	Uruguay Guyana Saint Vincent and the Grenadines Paraguay Grenada	Argentina United States Suriname Canada
	US\$4.544 billion (12.67%)	US\$26.441 billion (73.72%)	US\$624 million (1.86%)	US\$24.741 billion (73.84%)
NEGATIVE (Revealed Comparative Disadvantage)	Trinidad and Tobago Barbados Canada	Antigua and Barbuda El Salvador Venezuela Bahamas Guyana Saint Kitts and Nevis	Barbados Chile Guatemala Trinidad and Tobago Ecuador Costa Rica Mexico Nicaragua Venezuela Jamaica Dom. Republic Panama Brazil Haiti Honduras Peru	Antigua and Barbuda El Salvador Saint Kitts and Nevis Bolivia Colombia Dominica Bahamas Belize Saint Lucia
	US\$4.524 billion (12.61%)	US\$357 million (1.00%)	US\$7.169 million (21.40%)	US\$971 million (2.90%)
BEVERAGES AND TOBACCO Average Annual Growth of World Demand: 6.12%		COFFEE, COCOA, TEA AND SPICES Average Annual Growth of World Demand: 4.37%		
	GROWING (Improving)	DECLINING (Worsening)	GROWING (Improving)	DECLINING (Worsening)
POSITIVE (Revealed Comparative Advantage)	Chile Dom. Republic Nicaragua Mexico Trinidad and Tobago Jamaica Barbados Bolivia Saint Lucia Grenada Belize Uruguay	Brazil Argentina Guatemala Panama United States Honduras Guyana El Salvador	Haiti Grenada Peru Mexico Bolivia Saint Vincent and the Grenadines Dominica Trinidad and Tobago Saint Lucia	Honduras Guatemala Colombia Dom. Republic Nicaragua El Salvador Costa Rica Brazil Ecuador Jamaica Panama Saint Kitts and Nevis Venezuela
	US\$2.192 billion (9.31%)	US\$18.158 billion (77.15%)	US\$1.457 billion (8.29%)	US\$7.353 billion (41.84%)
NEGATIVE (Revealed Comparative Disadvantage)	Bahamas Venezuela Ecuador Antigua and Barbuda Costa Rica Haiti Dominica Peru	San Kitts y Nevis Canada Colombia St. Vincent/ Grenadines Paraguay Suriname	Argentina Chile Canada Belize Barbados Bahamas Uruguay	Paraguay United States Guyana Suriname
	US\$508 million (2.16%)	US\$2.679 billion (11.38%)	US\$2.186 billion (12.44%)	US\$6.579 billion (37.43%)

MEATS AND PREPARED PRODUCTS Average Annual Growth in World Demand: 3.23%		ANIMAL AND VEGETABLE FATS AND OILS Average Annual Growth in World Demand: 8.06%		
	GROWING (Improving)	DECLINING (Worsening)	GROWING (Improving)	DECLINING (Worsening)
POSITIVE (Revealed Comparative Advantage)	Brazil United States Bolivia Panama Canada	Uruguay Nicaragua Paraguay Costa Rica Argentina Haiti	POSITIVE (Revealed Comparative Advantage)	Bolivia Costa Rica Brazil Canada Grenada Saint Vincent and the Grenadines Uruguay
	US\$14.067 billion (80.48%)	US\$1.668 billion (9.54%)		US\$2.205 billion (22.26%) US\$5.962 billion (60.17%)
NEGATIVE (Revealed Comparative Disadvantage)	Guyana Ecuador Barbados Chile Bahamas Mexico El Salvador Trinidad and Tobago Grenada	Honduras Dom. Republic Venezuela Saint Kitts and Nevis Guatemala Antigua and Barbuda Saint Vincent and the Grenadines Colombia Belize Jamaica Saint Lucia Peru	NEGATIVE (Revealed Comparative Disadvantage)	Trinidad and Tobago Barbados Guatemala Dominica Ecuador Colombia Panama Belize Mexico El Salvador Nicaragua Chile Haiti Venezuela
	US\$1.483 billion (8.48%)	US\$262 million (1.50%)		US\$1.487 billion (15.00%) US\$254 million (2.56%)
SUGAR AND HONEY Average Annual Growth in World Demand: 1.33%		DAIRY PRODUCTS AND EGGS Average Annual Growth in World Demand: 3.08%		
	GROWING (Improving)	DECLINING (Worsening)	GROWING (Improving)	DECLINING (Worsening)
POSITIVE (Revealed Comparative Advantage)	Guyana Nicaragua Mexico	Belize Saint Kitts and Nevis Dom. Republic Brazil Guatemala Colombia Barbados Panama El Salvador Jamaica Argentina Costa Rica Bolivia Trinidad and Tobago Honduras Paraguay	POSITIVE (Revealed Comparative Advantage)	Argentina Panama Costa Rica Nicaragua Canada
	US\$779 million (9.42%)	US\$3.548 billion (42.95%)		US\$944 million (20.48%) US\$1.692 billion (36.71%)
NEGATIVE (Revealed Comparative Disadvantage)	Antigua and Barbuda Ecuador Canada United States Saint Vincent and the Grenadines Grenada Haiti Dominica Saint Lucia	Uruguay Peru Chile Suriname Venezuela Bahamas	NEGATIVE (Revealed Comparative Disadvantage)	Chile Dom. Republic Dominican Grenada Dominica El Salvador Bolivia Trinidad and Tobago Barbados Mexico Honduras Brazil Venezuela
	US\$3.456 million (41.84%)	US\$478 million (5.79%)		US\$1.616 billion (35.06%) US\$357 million (7.74%)

ANNEX 4: FOOD SECURITY: ACCESS TO AND AVAILABILITY OF FOOD IN THE COUNTRIES

Methodological framework

This analysis defines four categories: country access, individual access, availability, and an average of all three.

In the *country access* category, variables are included that measure the short-term difficulties faced by each country in financing its imports and ensuring adequate levels of domestic food supplies. These variables include: the ratio of food imports to total exports, total debt servicing as a percentage of the country's exports, and the real price-income elasticity of food.

The *individual access* category measures the population's capacity to pay and thus ensure acceptable food levels. It includes variables such as calorie and protein intake and real per capita income.

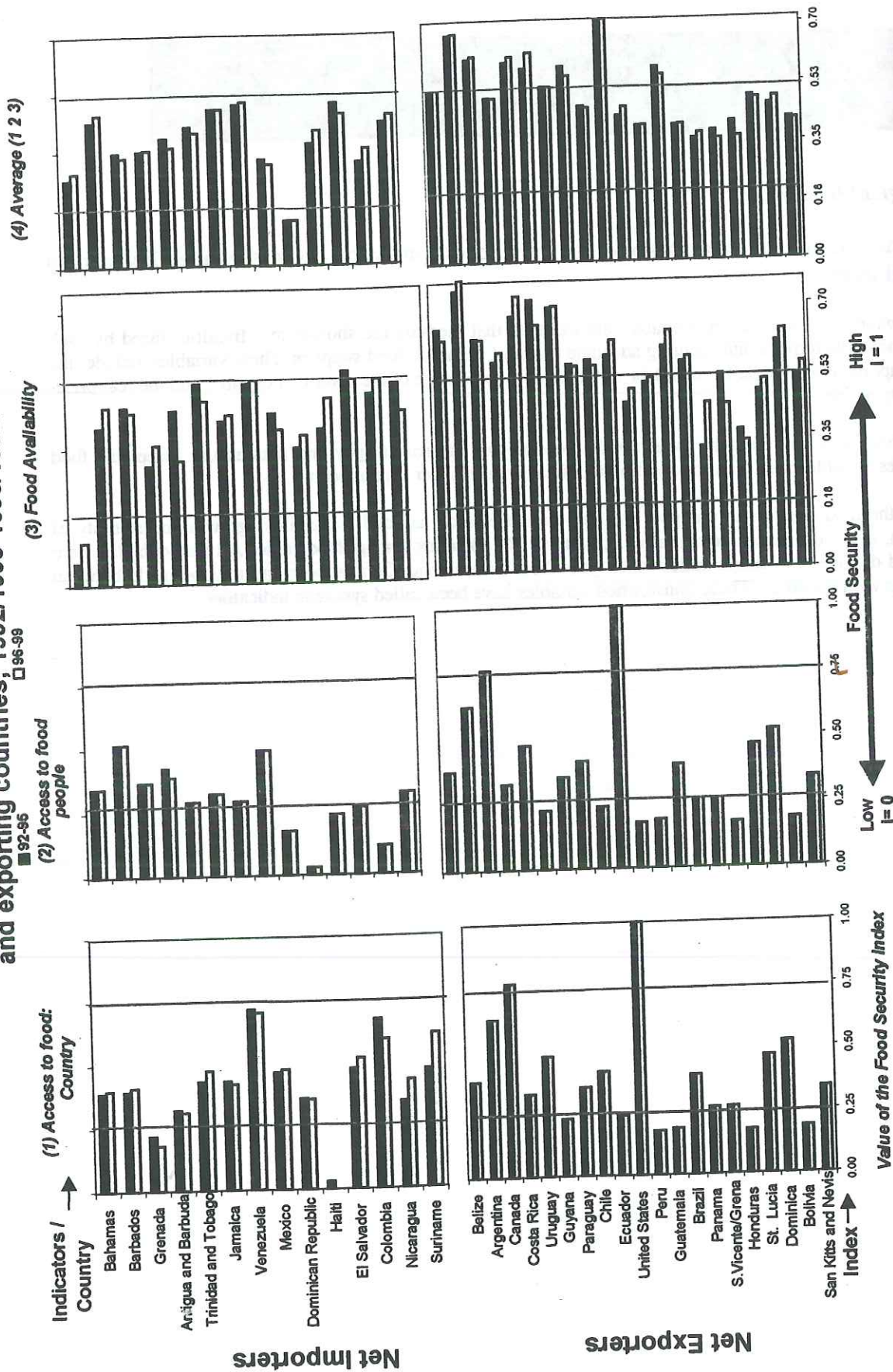
Finally, the food *availability* category includes variables such as: land availability, growth and stability of food production, and the revealed comparative advantage (RCA) index for agrifood trade. All the variables were transformed and defined on a single scale, which goes from zero to one. Comparisons can thus be made between variables and between countries. These transformed variables have been called synthetic indicators.

Doc. 253

Doc. 254

Doc. 255

Figure 2. The Americas: Food security indicators and index in net food-importing and exporting countries; 1992/1995-1996/1999.



Note: Net food-importing and exporting countries are listed in descending order, according to their volume of their net food imports (exports): 1996-1999.