

# *Agriculture*

## *and the new challenges of development*

*The State of and Outlook for  
Agriculture and Rural Life  
in the Americas, 2007*

*Summary*

June, 2007

© Inter-American Institute for Cooperation on Agriculture (IICA). 2007

IICA encourages the fair use of this document. Proper citation is requested.

This publication is also available in electronic (PDF) format from  
IICA's Web site at [www.iica.int](http://www.iica.int)

**Editorial coordination:** Rafael Trejos, Hugo Chavarria

**Mechanical editing:** Language Services Office

**Layout:** Ana Catalina Lizano, Karla Cruz

**Cover design:** Ana Catalina Lizano

**Printed:** IICA Headquarters

Agriculture and the New Challenges of Development:  
Summary: The State of and Outlook for Agriculture and  
Rural Life in the Americas, 2007 / IICA. San Jose: IICA,  
2007.

80 p. ; 19x26 cm

ISBN13: 978-92-9039-813-4

Published also in Spanish

1. Agriculture 2. Rural life 3. Latin America 4. Caribbean  
5. North America I. IICA II. Title

AGRIS  
E50

DEWEY  
338.1

San Jose, Costa Rica  
2007

# Aknowledgements

*The 2007 Report “State of and Outlook for Agriculture and Rural Life in the Americas” represents a joint effort on the part of specialists from the various units of the Inter-American Institute for Cooperation on Agriculture (IICA). The process involved the preparation of national, regional and hemispheric reports, under the supervision of Dr. James French, Director of the Directorate of Technical Leadership and Knowledge Management (DTLKM) and general coordination under Rafael A. Trejos from the Institutional Modernization Unit. To all, we express a public vote of thanks for their contributions*

*In the preparation of the Report, invaluable contributions were received from three international organizations operating from the perspective of the “working together” approach. They provided working documents and basic information for conducting the analyses in the interest of shaping a shared vision of the state of agriculture and rural life.*

*Special thanks are due to the United Nations Food and Agriculture Organization (FAO), which prepared an exhaustive report entitled *Producto y producción del sector silvoagropecuario y pesquero de América Latina y el Caribe* (Output and production of the agricultural, forestry and fisheries sectors in Latin America and the Caribbean), which served as a basis for the preparation of the section “Trends in agricultural production in the Americas; the Tropical Agriculture Research and Higher Education Center (CATIE), which assisted with the section on the “Sustainability of agricultural and rural development”; and the Economic Commission for Latin America and the Caribbean (ECLAC), which contributed information from their database and updated through 2007 the indicators for follow-up of the AGRO 2015 Plan.*

*We also wish to express special thanks to staff members Jorge Ardila, Hugo Chavarria, Oswaldo Segura and Henry Benavides, as well as consultants Tatiana Abarca and Julio Alfaro, who lent direct support to the general coordinator in the preparation of the document.*

# Contents

<i>Aknowledgements</i> .....	<i>iii</i>
<i>Contents</i> .....	<i>v</i>
<i>Foreword</i> .....	<i>ix</i>
<i>Executive Summary</i> .....	<i>xi</i>
<i>The Changing International and Regional Environment and its impact</i> .....	<i>1</i>
<i>The recent performance of agriculture and rural life in the Americas</i> .....	<i>4</i>
<i>The competitiveness of the region's agriculture in a context of free trade</i> .....	<i>4</i>
i. Agricultural production: good news for the hemisphere as a whole but disparities at the regional level.....	<i>4</i>
ii. The evolution of agrifood trade: the hemisphere is a net exporter but its exports are losing ground.....	<i>6</i>
iii. The hemisphere is becoming more competitive in world agricultural trade.....	<i>9</i>
iv. The prices of agricultural products are improving: good news for some producers but not for consumers.....	<i>10</i>
v. Competing with quality: the importance of AHFS.....	<i>11</i>
vi. Investment in science and technology: a pending task that raises doubts about future competitiveness.....	<i>12</i>
vii. Agrifood markets: new realities, alternatives and opportunities.....	<i>16</i>
viii. Family agriculture is important but undervalued.....	<i>18</i>

<i>Equity Improving In Rural Territories</i> .....	19
i. Poverty is on the decline, but the rural milieu continues to be impoverished.....	19
ii. Poverty is not uniform in rural labor markets.....	21
iii. Inequality in the distribution of rural income is on the decline.....	23
iv. Increased vulnerability hurts the rural poor the most.....	24
v. Education has an adverse effect on the competitiveness of agriculture and rural equity.....	26
vi. Food security is improving in the North and South, but progress is limited in the tropics.....	26
 <i>The imperative of sustainable agricultural and rural development: some success stories</i> .....	27
i. Water.....	28
ii. Forest products and services.....	28
iii. Soil and desertification.....	32
iv. Marine ecosystems and resources.....	33
v. Climate.....	33
 <i>Slow progress in improving governance in agriculture and rural life</i> .....	30
i. Governance in agriculture and rural development: political-institutional considerations.....	30
ii. The new dynamic of the integration processes: trade policy in the region.....	31
iii. Important changes in policies and institutions.....	34
iv. Public spending, investment and rural finance.....	36
v. Protecting against risk.....	37

<b><i>The outlook for agriculture and rural life in the Americas.....</i></b>	<b>39</b>
<i>The global scenario and agricultural markets.....</i>	39
<i>The competitiveness of agriculture and the rural milieu.....</i>	40
<i>Equity in agriculture and the rural milieu.....</i>	42
<i>The sustainability of agriculture and the rural milieu.....</i>	43
<i>Governance in agriculture and the rural milieu.....</i>	46
<b><i>Challenges for agriculture and rural life in the Americas.....</i></b>	<b>47</b>
<i>Making agriculture more competitive.....</i>	47
<i>Making agricultural and rural development more equitable.....</i>	50
<i>Making the transition to a more sustainable paradigm.....</i>	51
<i>Improving governance in agricultural and rural development.....</i>	54
<b><i>Notes y bibliography.....</i></b>	<b>55</b>



# Foreword

The role that agriculture has played in reducing poverty in recent years is further confirmation of the idea that IICA has been promoting since the turn of the century, namely, that agriculture is important not only because it is a way of life for millions of people in the Americas, but also because it is a strategic sector that contributes to economic, social, environmental and political development at the national level.

Furthermore, agriculture's true contribution to economic development in the hemisphere is enhanced when the region's favorable agro-ecological conditions are underpinned by trade policies that ensure better prices for its products, promote trade negotiations that make it possible to take advantage of new market niches, implement more effective public policies that guarantee product quality and safety, and allocate more resources to investment in science and technology. Actions of this kind are the only way to make agriculture a catalyst in translating the current sustained economic growth in the developing countries into significant reductions in poverty and hunger.

The "Report on the State of and Outlook for Agriculture and Rural Life in the Americas, 2006-2007" analyzes and assesses the progress of sustainable development efforts in the region's rural milieu. It focuses on the four strategic objectives established by the ministers of agriculture in the AGRO 2003-2015 Plan (competitiveness, equity, sustainability and governance in the agricultural sector and rural territories of the Americas). The report also describes the main challenges facing agriculture in relation to the new challenges for development as a whole.

This document contains a summary of the main report, which IICA is required to prepare pursuant to articles 3) and 23d) of the Rules of Procedure of the Inter-American Board of Agriculture (IABA). It is mainly intended to provide input for the deliberations of the



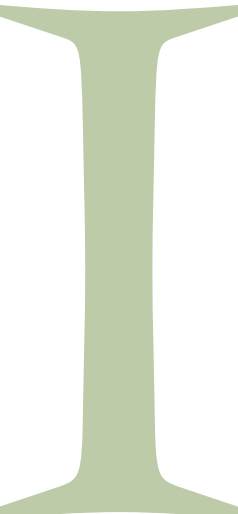
ministers and delegates of agriculture tasked with devising strategies to provide follow-up to the implementation of the AGRO 2003-2015 Plan.

In preparing the “Report on the State of and Outlook for Agriculture and Rural Life in the Americas,” IICA received valuable assistance from the Food and Agriculture Organization of the United Nations (FAO) and the Tropical Agricultural Research and Higher Education Center (CATIE). As part of the “working together” approach, both institutions contributed useful documents that enriched the information and the analysis of the issues.

This report is important not only because it examines the variables that have limited the importance attributed to agriculture in the development model, but also because it pinpoints the areas in which further progress is needed if the rural milieu is to be integrated into, and reap the benefits of, the economic liberalization and globalization processes.

***Dr. Chelston W.D. Brathwaite,***  
*Director General del IICA*

# *Executive Summary*<sup>1</sup>



In 2005, the Latin American and Caribbean (LAC) countries achieved their best economic and social indicators of the last 25 years, with major progress made in reducing poverty and unemployment, an improvement in income distribution in some countries and the creation of new jobs. The region's agricultural sector played a key role in this solid performance, lending further weight to the idea that it is extremely important for the development of the countries of the Americas<sup>2</sup>.

However, although the economic variables and living conditions improved, poverty remains a serious problem. LAC continues to be the most inequitable region of the world as far as income distribution is concerned.

Therefore, one of the priorities of any strategy aimed at reducing poverty in LAC, especially in countries that have large rural populations, must be the competitive, inclusive and sustainable modernization of the expanded agricultural sector.

A summary of the recent performance of agriculture and rural life makes interesting reading:

- Agricultural production continued to rise throughout the hemisphere, although the rate of growth was slower in 2004 and 2005 than in 2003, which was a particularly good year for agriculture in every region except the Caribbean.
- In 2005, the agricultural GDP of LAC rose by 2.2%. Although growth was weaker than in previous years (it topped 4.1% in 2003 and 3.7% in 2004), it was less volatile and maintained the positive medium-term trend.
- The sustained upward trend in agricultural production in LAC is due mainly to the rapid economic growth of the Southern Cone countries. Given the size of their agricultural sectors, those countries now account for an increasingly large share of Latin America's agricultural GDP.
- While the share of agricultural commodities in

world trade has fallen, down from 13% in 1995 to 7.2% in 2005, the share of processed products has risen 10.8% per year since 2002.

- The Americas continue to be the world's leading net exporter of agricultural products, followed by Oceania. It is interesting to note that Africa, historically a net importer of agricultural products, has had a surplus since 2004. The other regions of the world continue to have a negative agricultural trade balance.
- The hemisphere's share of world agricultural trade has been declining since 2000. This is because its agricultural exports have grown more slowly than those of the rest of the world. While global agricultural exports grew at an annual rate of 10.5% during the period 2000-2005, the annual growth of the hemisphere's agricultural exports was only 7.1%.
- The Americas mainly exports commodities, with soybean leading the way (8.5% of all agricultural exports). On the other hand, the region mainly imports processed agricultural products. This trend has been accentuated in recent years.
- Measured in terms of its revealed comparative advantage (RCA), the competitiveness of the hemisphere's agricultural trade was positive and improved during the period 2000-2005. This was mainly due to the sustained increase in the agricultural RCA in the Southern Region, since it remained unchanged in three of the other regions (Northern, Andean and Central) and fell in the Caribbean, where it actually dipped into negative territory in 2004.
- During the same period, international prices of agricultural products rose sharply, by an average of 6.5% per year, reversing the trend of low prices seen in previous years. With the exception of cocoa beans, the international prices of all the main commodities rose, with tropical products leading the way.
- The demand for quality products increased. In 2005, the importance of agricultural health and food safety (AHFS) for the competitiveness of agroindustrial companies was reflected in the fact that nearly US\$190 billion in agricultural exports and US\$130 billion in imports had to meet a sanitary or phytosanitary standard of some kind.
- Furthermore, the competitiveness of a large number of agricultural products was undermined by the impact of problems such as foot-and-mouth and mad cow disease, leading to the loss of markets and jobs, falling consumption, lower prices for producers, etc.
- The technological gap between LAC and the rest of the world has widened. This is evidenced by the fact that yields per

hectare in LAC remain lower than those of the industrialized countries and emerging regions such as East and Southeast Asia.

- In LAC, the limited efforts to develop and incorporate new technologies are restricted to traditional products. Production of nontraditional items is increasing due to the incorporation of new farmland, which is unsustainable over the medium and long terms.
- Although LAC is trying to incorporate alternative production methods (such as direct planting and precision and organic agriculture), it still lags a long way behind other regions of the world.
- New production alternatives and opportunities, such as organic agriculture, the production of agro-energy, agro-biotechnology and agro-tourism are enhancing agriculture's role spurring in the growth of rural territories and as an agent of economic change.
- Rising fossil fuel prices have encouraged some countries in the hemisphere (mainly the United States and Brazil) to promote agriculture as an alternative source of energy. Although many countries are joining these initiatives, the impact on agricultural prices, crop substitution, food security, supplies of animal feed and other issues remains unclear.
- Poverty and extreme poverty in rural areas decreased during the first half of this decade. In 2005, for the first time in 25 years, the rates for both dipped below 1980 levels. Paraguay, El Salvador, Mexico and Brazil made the biggest strides in reducing poverty during that period. The gaps between poverty and extreme poverty in rural and urban areas also narrowed.
- Not only are poverty rates higher in rural areas than in urban areas, the incidence of rural poverty is also higher among self-employed agricultural workers. This suggests that agriculture, as an economic activity, needs to focus on poverty alleviation strategies, because it has the greatest potential for raising the incomes and improving the quality of life of the poor.
- Although LAC continues to be the most inequitable region in the world in terms of income distribution, between the end of the last decade and the middle of this, the situation in rural areas improved in 11 of the 13 countries for which information is available.
- In recent years, the region has become increasingly vulnerable to natural disasters, with the poorest segments of the population and rural areas hardest hit. The Andean Region accounts for over 50% of the deaths caused by natural disasters in the Americas, with floods posing the biggest threat to human life. The Central and Caribbean regions are next in importance.

- The pressure to meet the dietary needs of a population that has doubled in the last 50 years has led to nearly 37% of all land being used to grow crops, with most production systems geared to the non-sustainable use of natural ecosystems. The environmental costs have been huge in terms of the degradation of water resources, the non-sustainable use of aquifers, the loss of forest cover, desertification and the release of large quantities of greenhouse gases into the atmosphere.
- The effect of climate change on agricultural production will vary from one area to another, since some developed countries at mid and high latitudes, especially in the Northern Hemisphere, could actually experience net gains, while many developing tropical countries could face even bigger problems related to climate change and the increasing unpredictability of precipitation levels.
- Governance in the LAC countries was strengthened thanks not only to increased citizen involvement in the formulation and execution of development policies, but also because the markets helped to achieve social objectives such as the reduction of poverty and inequity. However, the social divide threatens governance in many rural territories in LAC.
- With the Doha Round stalled and the FTAA negotiations suspended indefinitely, the LAC countries have opted to strengthen their respective regional trading blocs and/or negotiate bilateral or regional free trade agreements with the United States and other major economic powers (mainly Asian economies).
- The amount of public funds allocated to the rural milieu has decreased substantially. Average per capita spending on rural areas in LAC fell by over 36% in real terms over the last two decades, and total public spending in rural areas continues to be considerably less than the contribution that agriculture makes to economic development.
- Although the developing countries are expected to spearhead world economic growth over the next decade (growing faster than the developed countries), LAC will be the developing region with the lowest rate of growth.
- With fossil fuel prices expected to continue to rise, driven by the growing demand for energy worldwide, the countries look set to encourage the production of fuels from agricultural products. As a result, the increased demand for raw materials used in the production of bio-fuels will change the terms of trade for agricultural commodities.
- The growth in the global demand for food is a great opportunity for the countries

of the hemisphere to increase both their market share and add value to their agrifood products. This will improve the conditions for agriculture to contribute more effectively to the development of the LAC countries and to rural poverty alleviation.

- However, to create those conditions the countries will have to address the four major challenges they face, which are related to the strategic objectives of the AGRO 2003-2015 Plan: competitiveness, equity, sustainability and governance.

## *Four challenges for agriculture and rural life*

### *1. Making agriculture more competitive*

To address this first challenge successfully, agriculture has to produce more efficiently, increase the productivity of the factors of production, generate higher quality products, and have better institutions and human resources and more effective public policies geared to agrifood chains and rural territories.

To produce more efficiently, with higher yields and productivity of the factors of production, efforts are needed to reorient and speed up technological change and innovation in agriculture, encouraging the actors in the countries to introduce new technologies. More and better agricultural entrepreneurs are also required, as well as a more skilled workforce and improved delivery of the services that agriculture

needs to compete in more open and competitive markets.

To turn out quality products, AHFS must be made a factor of success in the competitiveness of agrifood chains. This calls not only for improved national services but also for a new technological infrastructure and the development of a consensus with private sector organizations and actors on long-term agendas.

Formulating and implementing more effective policies in support of agriculture calls for the production of public goods and the creation of the conditions needed for them to operate properly (infrastructure, information systems, legal framework, financial system, logistical system, trade treaties, etc.). At the same time, efforts must be made to improve the integration of small producers and the family economy into agrifood chains and international markets.

## *2. Achieving greater equity in agriculture and the rural milieu*

This challenge calls for corrective actions to improve the traditional performance of the actors in agriculture and the rural milieu (enhance capabilities, increase investments and promote institution building).

Such corrective actions should form part of policies designed to promote rural prosperity that focus on four areas: agrifood chains (creation of agribusinesses, greater inclusion and job creation); rural territories (systemic competitiveness, reduction of transaction costs and generation of social income); institutional innovation (participatory and inclusive policy management); and the development of strategic capabilities (effective implementation of policies).

Food security must also be made one of the key objectives of poverty alleviation strategies, technological innovation processes, international trade negotiations and the orientation of development aid.

## *3. Adopting a more sustainable paradigm*

To meet this challenge, LAC countries must review and change the ways that soils and forests have traditionally been used for

agricultural activities, and then develop competitive business strategies that attach value to, and recognize the importance of, sound environmental management and promote equity for rural actors.

They also need to place emphasis on eco-systemic functions and services through integrated landscape management that promotes intersectoral and participatory approaches to territorial management, facilitates economic mechanisms whereby fair compensation is paid for the functions of ecosystems, and fosters comprehensive territorial management.

It is also imperative that the challenges of global climate change be met with actions and policies that promote the generation of accurate scientific information; that the opportunities and risks for agriculture be analyzed; that polluting emissions be controlled; and that the positive and negative impacts of bio-fuel production be analyzed and evaluated.

## *4. Promoting governance in rural territories*

Improving governance in rural territories entails strengthening the market as an instrument for generating growth in the agricultural and non-agricultural rural economy. But this must go hand in hand with efforts to enhance the capabilities of

agroindustrial producers and family agriculture, so these actors are better integrated into international markets. Agriculture and the rural milieu will then be able to reap more benefits from trade and the emergence of new market niches.

It is also necessary to develop mechanisms to improve the distribution of the benefits within

agrifood chains and promote a fair return to each of the factors of production.

Finally, the citizenry must play a bigger role in the formulation and/or implementation of public policies designed to strengthen rural territories, and in the search for solutions to their problems at the local level.





# *The changing international and regional environment and its impact*

**T**welve overarching trends characterize the environment in which the region's economies operate and determine the performance of agriculture and rural life. The first, globalization, is creating more opportunities for economic agents and giving them greater access to knowledge, shortening the distances between markets and driving the development of an international institutional framework. The World Trade Organization (WTO) is the single most important component of that framework, which is imposing new game rules on the economic agents.

The second major trend is trade liberalization. The cornerstone of economic policy for over two decades, it is helping to expand markets and improve access to them,

permitting some agricultural producers to tap the opportunities available and affording consumers access to a wider variety of quality products, usually at lower prices.

However, there is a growing realization that the benefits of globalization and trade opening are not being distributed equitably among all the countries and all the segments of their societies, and increasingly there are calls for corrective action to be taken.

A third important trend is a reaction to the limited progress achieved in the ongoing multilateral negotiations known as the Doha Development Round. These have stalled, largely due to the difficulty of further

*“The focus on bilateralism... damages the rights particularly of the poor and the weak because in a bilateral negotiation the objectivity of a global system goes out the window and you have in effect a bullying opportunity often for the major trading powers.”*

*Peter Sutherland  
(2006)*

agricultural trade liberalization, which is crucial for most of the developing countries that are heavily dependent on their agricultural sectors.

Since the Doha Round negotiations have stalled, the emphasis is being placed on bilateral free trade agreements. These not only underscore the asymmetries that exist but permit the developed nations to impose their agendas on their less developed counterparts, or win concessions that would be hard to obtain within the WTO.

A fourth trend is the rapid growth of agrifood markets, whose characteristics have become more clearly defined in recent years: the increasing concentration of actors, particularly the large supermarket chains with their huge purchasing power and retail sales; the growth of processed products, which is outpacing that of commodities; changing consumption habits; greater interest in, and demand for, quality; and the dominance of brands and the growing importance of niche or specialized markets.

A fifth trend is the growing social unrest in the LAC countries, which threatens to make many rural territories in the region ungovernable. People have lost faith in their institutions and political parties, and are increasingly pessimistic about the future. Social unrest is on the increase due to the continued existence of poverty in

rural areas, limited access to quality employment and worsening income distribution.

A sixth trend, related to global poverty and the conflicts taking place, is the increase in the number of displaced persons and migrants. In 2004, the number of documented migrants topped 175 million (three percent of humankind), not including internally displaced people, who are even greater in number. The war on drugs and measures to combat terrorism have led to new and stricter controls that make it even more difficult for people to emigrate in hopes of improving their lot.

The seventh trend has to do with the growing concern at environmental developments. The issue of the deteriorating environmental conditions and their negative impact on the development process has been taken up, to varying degrees, by governments, civil society organizations, producers and consumers. The different public and private actors have yet to match their words with deeds, however.

The eighth trend is the strong growth in the use of genetically modified (GM) crops and the rapid spread all over the world of some of the principal agricultural products, such as grains and oilseeds. This trend is one of the chief features of the current knowledge-intensive

technological paradigm in agriculture.

The ninth trend involves the growing number of countries that are turning to alternative energy sources based on agricultural products, mainly sugarcane and grains, which are used to produce fuel alcohol and biodiesel. High oil prices have caused many to question the wisdom of an energy model based primarily on fossil fuels. Since many countries in the Americas do not produce fossil fuels, high oil prices have had a negative impact on their trade balances and pushed up domestic prices of consumer goods, transportation and other basic services.

At the inter-American level, a tenth trend is the search for new forms of regional integration. The Summit of the Americas process has achieved only limited progress, producing few concrete advances, despite the declarations. The process is the victim of natural attrition and the emergence in the region of other, competing bodies (e.g., the Ibero-American Summits) and opposing political positions and visions of development.

In fact, one of the few areas of notable progress in the Summit of the Americas process has been the agricultural sector, with the ministers of agriculture reaching agreement on a shared vision for the development of agriculture and rural life and, in 2003, adopting the

AGRO 2003-2015 Plan. The Miami Summit (1994) also led to the launch of the process of developing a free trade area in the Americas, the FTAA, but divergent positions on agricultural and trade policies subsequently undermined the process and led to the negotiations being suspended indefinitely.

The failure of the FTAA has been offset in part by the alternative strategy followed by the United States of negotiating and signing bilateral and multilateral free trade agreements. New types of integration are also emerging in the region that do not necessarily place emphasis on free trade but rather seek to promote a new geopolitical order that is changing the paradigms and ideological balances. These developments have had a strong impact on two of the main integration blocs - the Andean Community of Nations (CAN) and the Southern Common Market (MERCOSUR) - while the creation of a South American Community of Nations has also been mooted.

Another trend at the inter-American level (the eleventh) is the increase in emigration, as people endeavor to escape from rural poverty by seeking a better future in countries that offer higher levels of development and greater opportunities.

In 2005, remittances sent back to LAC by emigrant workers had a significant effect on poverty reduction, as they totaled US\$48.3

*Agrifood markets: business is increasingly concentrated in a few hands, new technologies are emerging and there are fewer basic products and more processed ones.*

*Remittances help poor families cope with negative economic impacts, increase their savings, help keep their children in school, foster entrepreneurship, contribute to macroeconomic stability and help reduce economic volatility and inequity.*

billion. Mexico receives the largest slice of these funds (US\$21.8 billion per year), followed in the region by Colombia and Brazil. Remittances are particularly important in other Central American and Caribbean countries.

The twelfth trend is the growing importance of drug trafficking and

its adverse effects on economic, social and political life, fueling corruption and undermining governability. Combating illegal crops is another critical issue, since the profits to be made from drug trafficking appear to make it worth taking the risk and a very attractive business.

## *The recent performance of agriculture and rural life in the Americas*

### *The competitiveness of the region's agriculture in a context of free trade*

#### **i. Agricultural production: good news for the hemisphere as a whole but disparities at the regional level**

Agricultural production continues to grow throughout the hemisphere, albeit more slowly than in 2003, which was a particularly good year for agriculture in all the regions except the Caribbean.

However, while agriculture performed well in the Americas as a whole, there were sharp contrasts between both regions and countries.

The growth of agricultural GDP in the United States and Canada has fluctuated widely over the last

twenty years, with sharp drops in agricultural production at the start of this decade, especially during the 2001-2002 biennium. However, the agricultural GDP of both countries rebounded strongly in 2003 (with growth of 8.5% and 9%, respectively), a trend that appears to have continued during 2005 and 2006.

An important long-term trend observed in the United States has been a gradual reduction in acreage. This situation appears to have changed in 2006, however, when the acreage of the eight main crops increased by some 243 million acres, due to the high prices being paid and the bigger profits to be made. The reason for this upturn was the strong growth in the

production of corn-based ethanol, which is also having a direct effect on other crops.

Agricultural GDP rose by 2.2% in LAC in 2005, considerably less than in the two previous years (4.1% in 2003 and 3.7% in 2004). However, despite this slowdown in growth, the medium-term trend for the region's agricultural sector remains positive. Another encouraging development is the fact that growth has been more stable in recent years, without the large fluctuations seen in previous decades.

Agricultural GDP rose by 2.2% in LAC in 2005, considerably less than in the two previous years (4.1% in 2003 and 3.7% in 2004). However, despite this slowdown in growth, the medium-term trend for the region's agricultural sector remains positive. Another encouraging development is the fact that growth has been more stable in recent years, without the large fluctuations seen in previous decades.

The region's agricultural production has grown much more strongly over the last twelve years than during the 1980s and early 1990s (it averaged only 1.7% per year between 1982 and 1993).

The rate and relative stability of growth suggest that the region's agriculture is successfully meeting the challenges posed by the new conditions of the global economy and agricultural markets. The

progress of LAC agriculture is due mainly to the rapid growth achieved in the Southern Cone countries, while the Caribbean Region turned in the weakest performance. Since the start of this century, the agricultural GDP of Cuba, Haiti and nine of the 13 English-speaking Caribbean Community (CARICOM) countries has experienced negative growth.<sup>3</sup> Only two of the Caribbean countries have achieved agricultural growth rates higher than the Latin American average: the Dominican Republic (4.3% per annum) and Belize (which achieved an exceptional rate of 10.6% per year between 2000 and 2005). See Figure 1.

In Central America, the growth of agricultural production during the last five-year period (2000-2005) was positive, although the rates were relatively low. The annual rate of growth was below the regional average in four of the countries and higher in only two - Honduras (3.3%) and Panama (4.7%). Mexico's agricultural production has risen slowly so far this century, following two decades of severe stagnation. In the Andean Region, the growth of the countries' agricultural sectors was relatively uniform (around 3%), with the exception of Venezuela, where average growth reached barely 0.7%.

The agricultural sector in the Southern Region is very large and, following its strong growth, the

*Sectoral production: the news is good at the hemispheric level but not so good at the regional level*

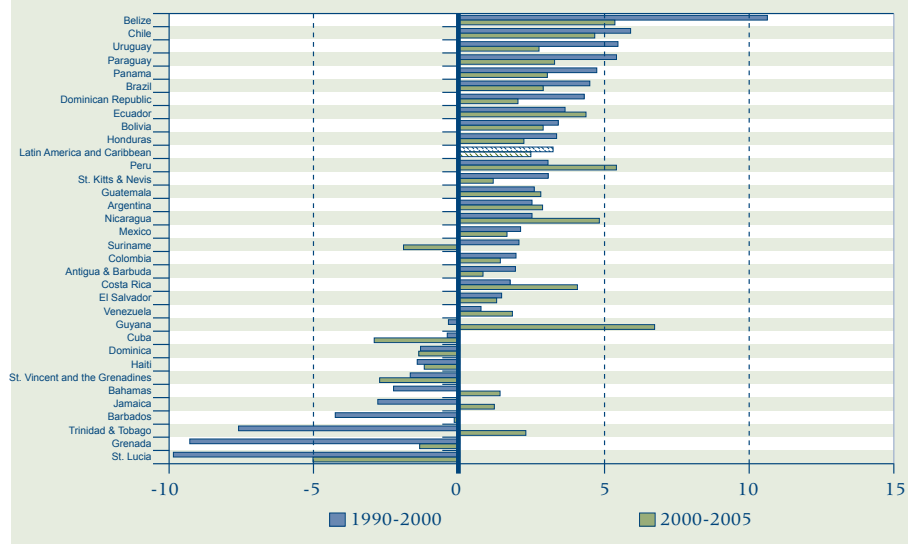
*Agriculture in the region is finding answers to the challenges posed by the new conditions of the global economy and agricultural markets.*

region now accounts for a bigger percentage of the sector's product. Between 2000 and 2005, the net increase in Brazil's annual agricultural product

alone was equivalent to almost twice the total for Chilean agriculture and two thirds of the total agricultural product of Argentina.

**Figure 1**

*LAC countries: Average growth of agricultural GDP (average annual rate expressed as a percentage)*



In general, the strong performance of the agricultural sector has to do with the focus on production for export. In those countries whose agricultural product experienced strong growth, overseas sales accounted for a large proportion of total demand. The focus on exports is spurring the development of production and making higher rates of growth possible.

The integration of markets and the transnationalization of production chains are unleashing powerful market forces. Allied to the development of effective

institutional arrangements that have removed the bottlenecks in agrifood chains, these developments are responsible for the high rates of growth.

**ii. The evolution of agrifood trade: the hemisphere is a net exporter but its exports are losing ground**

World trade has grown strongly since the start of the millennium thanks to more open international markets, but trade in agricultural products now accounts for a smaller

share of the total, down from 13% in 1990 to 7.2% in 2005. The same trend is observed in the hemisphere's agrifood trade.

Agriculture's share of total trade varies from region to region in the Americas. Agricultural exports account for only 7% of total exports in the Caribbean and Northern regions, while in the Central Region the figure is 43%.

Trade in processed agricultural products has grown very strongly in recent years, rising 10.8% per year since 2000, while trade in commodities grew only 6.8% over the same period. Thus, the relative importance of commodities as a percentage of global trade in goods has declined.

In the Americas, ten products account for nearly 40% of all agricultural exports. The single most important product is soybean, which makes up 8.5% of the hemisphere's exports. Imports are less concentrated, with ten products accounting for 30% of all the hemisphere's agricultural imports. Wine and vermouth top the list of imports in the Americas.

The hemisphere continues to be the world's leading net exporter of agricultural products, followed by Oceania. It is interesting to note that Africa, historically a net importer of agricultural products, has had a surplus since 2004. The other regions

of the world continue to have a negative agricultural trade balance.

The world's agricultural trade is highly concentrated in a few countries. The United States is the biggest exporter (accounting for 10.7% of the world total), although its exports have been losing ground to those of the European Union and Brazil, which is now the world's fifth largest exporter of agricultural products.

The western hemisphere is the world's second largest supplier of agricultural products (27%), after the EU-25, and the third largest importer (19%).

Between 2000 and 2005, the hemisphere's agricultural exports grew more slowly than those of other regions of the world. While world exports grew by 10.5% per year, in the Americas they rose by only 7.1%. As a result, the hemisphere's relative share has declined: in 2000, exports from the Americas accounted for 31% of world agricultural trade, but by 2005, the figure had fallen to 27%.

The situation with regard to agricultural imports in the Americas is similar, since this region recorded the weakest growth between 2000 and 2005. This was mainly due to the lower rate of growth in the imports of the United States and, to a lesser extent, Canada, because the relative size of the trade of



*The Northern and Southern regions account for 90% of the hemisphere's agricultural exports. The Southern Region improved its competitive position.*

these countries affects trends in the Americas as a whole.

The hemisphere mainly exports commodities and imports processed products. The trend in trade is toward an increase in the relative importance of processed products at the expense of commodities.

One of the most marked recent trends in the hemisphere has been the buoyancy of the Southern Region's agricultural exports between 2000 and 2005, when they grew by an average of 14.1% per year. As a result, the Southern Region was the only region of the Americas whose rate of growth was higher than the global figure, since the other regions' share in global agricultural trade declined. At the same time, agricultural imports in the Southern Region declined, resulting in a large increase in the region's agricultural balance, with Brazil recording particularly good trade figures.

Agricultural trade in the Andean Region has been growing steadily since 2000, although at less than the world average. Nonetheless, the balance is positive, with a trend toward stronger growth.

In the Caribbean Region, both agricultural exports and imports declined, and the trend was even more marked in 2005. This region stands out because it has a negative agricultural balance of trade.

Although the Northern Region has historically had an agricultural trade surplus, in 2005 the agricultural balance of trade was negative (the growth of imports had been outpacing exports since 2000). The agricultural trade of this region and the Central Region was the weakest in the Americas, although the agricultural trade balance of the Central Region is positive and growing.

As is well known, the Northern and Southern regions account for 90% of the hemisphere's agricultural exports. However, since 2000 the Northern Region's share has fallen, while those of the Southern Region (mainly Brazil) and Andean Region have risen. With respect to the breakdown of agricultural imports, while the Northern Region accounts for over 85% of them in the hemisphere as a whole, imports in the Central and Caribbean regions have fallen. On the other hand, five countries account for 85% of all agricultural exports in the Americas (the three in the Northern Region, plus Argentina and Brazil).

The biggest markets for the hemisphere's agricultural exports are other countries in the Americas, with the United States alone absorbing 20% of them. Agricultural exports to African and European<sup>4</sup> markets are showing the strongest growth, having doubled between 2000 and 2005. Even so, they only account for 8% of the hemisphere's exports.

Most of the region's agricultural imports (63%) also come from other countries in the Americas, with the Northern and Southern regions being the hemisphere's biggest suppliers of agricultural products.

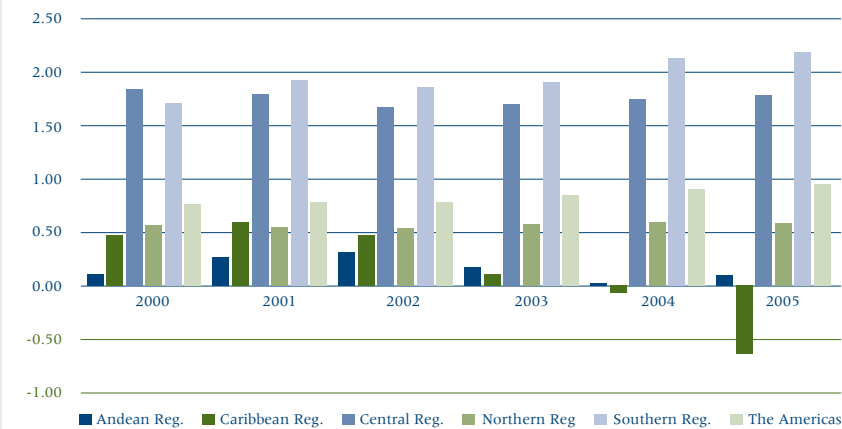
### iii. The hemisphere is becoming more competitive in world agricultural trade

The revealed comparative advantage (RCA)<sup>5</sup> of the

hemisphere's agricultural trade is positive and has been improving since the start of the millennium. The gain is due to the trend in the Southern Region, the only region where the RCA has improved. The RCA of three of the other regions (Northern, Andean and Central) has remained largely unchanged since 2000, while in the Caribbean Region it weakened and in 2004 became negative (see Figure 2).

**Figure 2**

*The Americas: Revealed comparative advantage of agricultural trade, 2000-2005.*



At the country level, Antigua and Barbuda, Mexico, Trinidad and Tobago and Venezuela all have problems as regards the competitiveness of their agricultural trade (negative RCA). In the case of three of these countries, the negative RCA of agricultural products is due to the importance of oil in their international trade. As a result,

agricultural trade accounts for a relatively small percentage of their total trade.

On the other hand, the comparative advantage of Argentina, Bahamas, Belize, Brazil, Grenada, Panama, Paraguay and Uruguay has been increasing rapidly. The comparative advantage of Colombia, Costa Rica,

*Most policy instruments are of insufficient scope and coverage to impact the rural poor to the extent that the price system does.*

Guyana, Jamaica, Nicaragua and Saint Vincent and the Grenadines has also improved, but at a lower rate. The comparative advantage of the agricultural trade of the rest of the countries in the Americas has fallen with respect to the world as a whole.

Broken down by product and country, only seven agricultural products improved their comparative advantage between 2000 and 2005 (RCA > 1), six of them in Caribbean countries. The product whose RCA improved the most was oranges, in The Bahamas.

**iv. The prices of agricultural products are improving: good news for some producers but not for consumers**

The international prices of agricultural products have risen sharply in recent years. The projections (FAPRI, 2006)<sup>6</sup> suggest that, in the medium term, the prices of corn and vegetable oils will be 50% higher than the average prices paid over the last decade. Wheat and dairy products will cost 40% more, the prices of oilseeds and sugar will rise by 20-26% and meat prices will be 12-14% higher.<sup>7</sup>

**Table 1**

*International Prices of Basic Agricultural Products (Average annual rate of growth, selected periods)*

	Periods		
	1992-1997	1997-2002	2002-2007
<b>Agricultural Products (Foods and Beverages)</b>	3.6%	-4.8%	6.5%
<b>Cereals</b>	5.4%	-3.4%	7.7%
<b>Meats</b>	0.3%	0.9%	4.3%
<b>Oils</b>	6.0%	-7.3%	4.2%
<b>Other Products</b>			
• Sugar	3.8%	-6.5%	13.6%
• Coffee	18.3%	-23.5%	13.7%
• Bananas	2.0%	2.0%	7.6%
• Oranges	0.9%	5.0%	6.5%
• Cocoa (Beans)	7.9%	-3.0%	-2.6%
• Soybean	5.7%	-7.9%	2.4%
• Wood	2.1%	-2.5%	5.7%

Over the last five years (2002-2007), the prices of foods and beverages have risen sharply, by an average of 6.5% per year, reversing the trend of low prices seen in previous years. With the exception of cocoa beans, the international prices of all the main commodities rose, with tropical products leading the upward trend. This is shown in Table 1.

In the case of corn, United States Department of Agriculture (USDA)

Source: IICA, drawing on IMF data: World Economic Outlook Database (May 2007)

projections<sup>8</sup> suggest that, with this grain being used to produce bio-fuel, both demand and prices will rise.

In the Americas, the consequences of this surge in agricultural prices, which looks set to continue for the medium term, will vary among the sector's various stakeholders and the different regions of individual nations, and from country to country.

**v. Competing with quality: the importance of AHFS**

The importance of AHFS in the competitiveness of agroindustrial companies is demonstrated by the fact that in 2005 nearly US\$190 billion worth of agricultural exports and US\$130 billion worth of imports had to meet a sanitary or phytosanitary standard of some kind. Furthermore, between 1995 and 2006 some 245 trade concerns were raised with the WTO Committee on Sanitary and Phytosanitary Measures (SPS).

Although the LAC countries have been active in raising trade issues, their participation in the multilateral standard-setting forums (such as the WTO, Codex Alimentarius, the IPPC and the OIE) needs to improve even more, since those forums are responsible for the regulations governing international trade and can help countries develop the institutional capabilities required to implement them.

The current sanitary status of three of the main transboundary or zoonotic diseases is as follows:<sup>9</sup>

**Table 2**

*Sanitary status of three diseases in LAC*

Diseas	Status	Países
Foot-and-mouth	Countries free of foot-and-mouth disease without vaccination	Canada, Chile, Costa Rica, El Salvador, USA, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama
	Countries free of foot-and-mouth disease with vaccination	Paraguay, Uruguay
	Countries with an area free of foot-and-mouth disease without vaccination	Argentina, Colombia, Peru.
	Countries with an area free of foot-and-mouth disease with vaccination	Bolivia, Brazil, Colombia
Bovine spongiform encephalopathy (BSE)	Member countries recognized as free of BSE	Argentina, Uruguay
	Member countries recognized as temporarily free of BSE	Chile, Paraguay
Rinderpest	Countries free of rinderpest infection	Argentina, Barbados, Bolivia, Brasil, Canada, Chile, Colombia, Costa Rica, Ecuador, El Salvador, USA, Guatemala, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, Trinidad & Tobago, Uruguay, Venezuela

Source: OIE

production and international trade has yet to be determined, there have been some important developments:

**Avian influenza (AI):** up to 2006, highly pathogenic avian influenza had affected four countries in the hemisphere (Canada, the United States, Mexico and Chile). However, none of the cases involved the H5N1 strain of AI responsible for the outbreaks in Asia, Europe and Africa in recent years, which caused major economic losses in both domestic production and international trade (closing of markets, falls in exports, domestic consumption and the prices paid to producers, etc.).

**Foot-and-mouth disease:** there have been outbreaks of this disease in most of the South American countries, with serious consequences. In Argentina, the 2001 outbreak led to the loss of 75 export markets, 5000 jobs and US\$400 million<sup>10</sup> - equivalent to two thirds of the value of total exports in 1999 and 2000.<sup>11</sup>

**Bovine spongiform encephalopathy (BSE):** the United States and Canada are the only countries in the hemisphere that have been affected by BSE recently. While in the United States the case involved an imported animal not born in the country, in Canada the appearance of a case of BSE early in 2004 resulted in losses put at around US\$6.3 billion.

**Foodborne diseases:** although the economic and social impact of foodborne diseases (FBDs) is very difficult to establish, studies carried out in the United States have estimated that there are between 33 and 76 million cases of FBDs each year that result in 325,000 hospitalizations and 5000 deaths. The USDA has put the cost of the diseases caused by only five of the most important pathogenic microbiological agents responsible for FBDs at roughly US\$7 billion.

**vi. Investment in science and technology: a pending task that raises doubts about future competitiveness**

Per capita food production has increased in recent years, both in LAC and across the globe. However, the statistics are distorted by oilseeds, whose performance is largely due to the increase in the production of transgenic soybean. Excluding oilseeds, in recent years food production in LAC has not grown and the gap between this region and the rest of the world has widened.

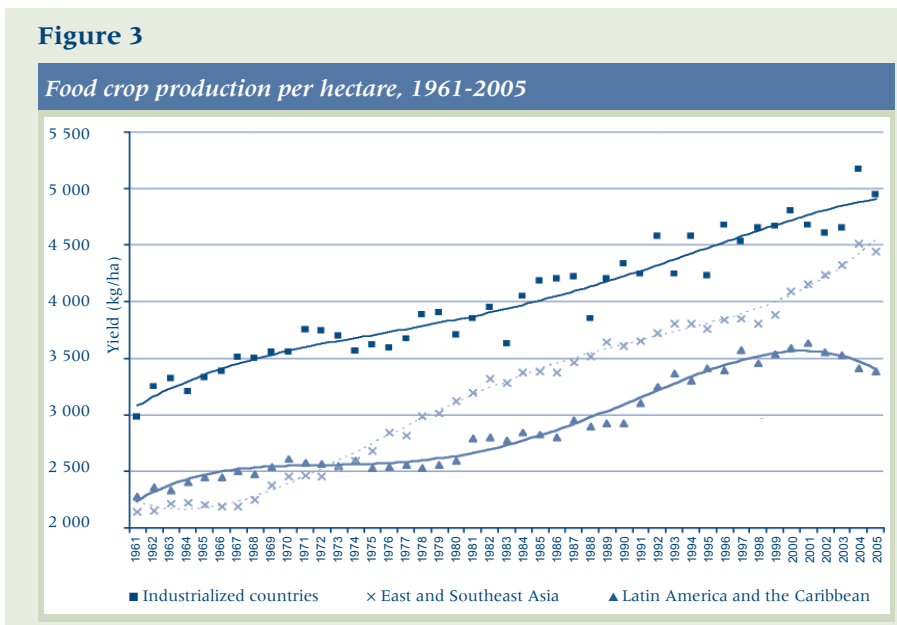
Yields per hectare in LAC also remain below those of the industrialized countries and emerging regions such as East and Southeast Asia. This aggregate indicator can reflect variations in a series of elements, such as the use of new marginal land for production or less investment in food crops due to the loss of relative

competitiveness (see Figure 3). On the other hand, it can point to the failure to introduce appropriate technologies into production systems.

Over the last 20 years, the product mix has changed, due to the incorporation of 744,000 hectares for the production of fruits, 2.5 million for the production of vegetables and nearly 18 million for oilseeds, with a clear loss of acreage devoted to conventional products.

Technologically speaking, this is particularly important, because the

biggest (national and international) efforts to develop and incorporate technological options have been undertaken in the field of traditional crops. While the growth in the production of traditional crops is due to higher yields, in the case of nontraditional products most of the growth has been achieved by increasing acreage. For example, the growth in fruit production in the region, which has averaged three percent per year, has been almost exclusively due to increased acreage, with only minor improvements in yields.



Source: Prepared by IICA's Area of Technology and Innovation, drawing on FAOSTAT data.

Increasing production in this way is not a sustainable strategy, since land is no longer such an abundant resource in our hemisphere. In the 1960s and 1970s, LAC had

almost 2.5 hectares of land per inhabitant. By the first five years of this century, this figure had fallen to a little under 1.5 hectares, placing LAC practically on a par with Africa

and the regions where the developed countries are located.

Another aspect that is changing the landscape in the region is the rapidly increasing use of alternative production methods, such as direct planting and precision and organic agriculture. For example, the amount of farmland used for organic production rose by 10.3% in LAC between 2004 and 2006, topping 6.4 million hectares in 2006. However, the increase in organic acreage in other regions of the world was even larger (30.7% during the same period).

The analysis of poverty reflects marked gaps between and within the countries of LAC, not only in terms of the social conditions in which the poor live but also as regards access to the innovations that would allow marginal/rural producers to break out of the rural poverty trap. Over the last two years, the technology policies of several countries have included major efforts to improve the living conditions and food security of rural communities by developing technologies for family or small-scale agriculture.

The capabilities for technological innovation in LAC are insufficient to develop the technology that agriculture will require to meet all the needs and challenges of the next decade: the potential impact of climate change; the need for more diversified, clean and tradable products; the integration of family

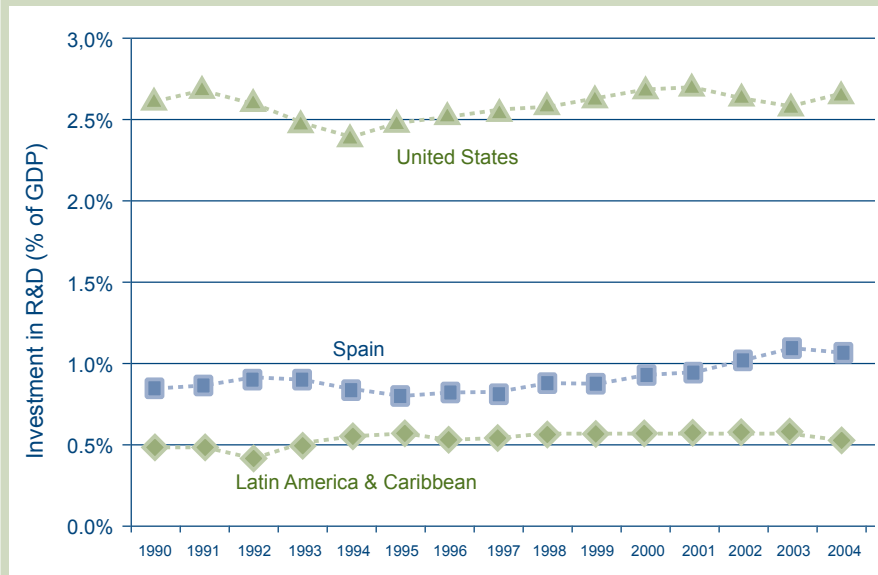
agriculture; and the minimization of the impact on diversity, human health and other factors. The key science and technology (S&T) and innovation indicators for LAC are far below those of the technologically advanced countries, and this gap has widened over time. Significant differences between countries in the region have also appeared.

It is estimated that investment in agricultural research and development (R&D) in LAC was higher in the second half of the 1990s than in the first, but fell at the start of this century by almost five percent in current dollars. Agricultural R&D as a percentage of total R&D decreased during the period for which figures are available (1990-2004). Finally, investment in R&D oscillated between 0.80% and 0.88% of agricultural value added (AVA), with the small increase due to a reduction in AVA. The priorities of the international centers changed and, as a result, over the last few years their investment in Latin America and the Caribbean has fallen from around 18% of their total budgets at the end of the 1990s to 12-14%.

Technology has made great strides in recent years across the globe, particularly in fields such as genomics, with public access to the genetic maps of an ever-growing number of species of interest to the agricultural sector, including animals, plants and microorganisms. This has led to the rapid development of lines of research on genetic improvement assisted by

**Figure 4**

*Level of investment in research and development (as % of Gross Domestic Product)*



Source: Prepared by IICA's Area of Technology and Innovation, drawing on RICYT data

molecular biology techniques. LAC has also been active in this and other innovative fields (nanotechnology, for example), but without playing a leading role.

These analyses make it possible to pinpoint a series of technological constraints facing the region's agricultural sector at different levels. The continued dominance of a linear model for the supply of technology based on generation and transfer, instead of the new paradigm of technological innovation, is regarded as one of the reasons for the widening gap between what producers need and what

the traditional institutional R&D framework provides.

It must be borne in mind that LAC is rich in national and regional technology research and development organizations, and knowledge derived from indigenous communities and traditional agriculture. Almost all the countries have public research institutions, some of which also engage in extension. The universities play an important role in these processes, while in some countries the private sector is increasingly involved in the execution of technology research and innovation activities.



The Americas have one of the most consolidated technology research and development systems to be found in the developing world. These include hemispheric mechanisms such as FORAGRO and FONTAGRO; the PROCIs, SICTA and PROMECAFE; equivalent networks dealing with specific products and/or disciplines; and, regional centers of excellence like CARDI and CATIE. This regional system is continually being modernized. It also plays a key role in the circulation of knowledge, horizontal cooperation between countries and efforts to institute a process of technological integration in LAC to support and underpin other cooperation and integration processes.

The paradox lies in the contrast between the region's major institutional resources and its underinvestment in S&T. This issue has to be resolved so that the system can do more to contribute to the competitive and sustainable development of agriculture, food security, poverty reduction and the conservation of natural resources.

**vii. Agrifood markets: new realities, alternatives and opportunities**

The main trend in agrifood markets is the way that the market is the key factor in all decisions taken within the agricultural production chain. In other words, while in the past production did not take

into account consumer preferences or requirements, in the new agribusiness environment producers and marketers must study the characteristics of the market to decide what, how and how much to produce.

In addition to changes in consumer tastes, which have increased the demand for healthy, low-carbohydrate foods, meat products, processed or convenience foods, organic products, etc., the overarching trends in agrifood markets are as follows:

***New ways of delivering products to the end consumer:*** the most striking development in this field has been the exponential increase in the participation of nontraditional retailers such as mass marketers, membership warehouses and, primarily, large supermarkets, which are involved in every link of agribusiness chains.

In LAC, the growth and consolidation of large supermarket chains has reduced the negotiating power of traditional producers. In order to gain access to these marketing channels, producers not only have to be willing to accept lower profit margins but also to meet volume, deadline and quality requirements.

The new purchasing practices adopted by supermarkets and large processors (the establishment of quality and safety standards, new canning and packaging regulations,

prices, minimum volumes, deferred payment practices, etc.) have had a major impact on production and marketing methods and practices, to which producers are still adjusting. Farmers and supply chains in the region are faced with a great challenge, not only in complying with the new rules of the game but also in developing and consolidating market instruments for optimizing the profits of the new forms of marketing, such as contracts, supply networks and distribution centers.

***Boosting new alternatives and new opportunities for agriculture-based businesses***, e.g., organic agriculture, energy production, agro-tourism.

Organic production has gained momentum in recent years, as the international market has developed. Organic agriculture now offers an important alternative for LAC producers, inasmuch as it makes significant contributions to rural economies, the environment and the social well-being of populations that practice it. It also offers a clearly defined international market with differentiated prices, and a market in which the demand for most products outstrips the supply.

This alternative form of production is currently practiced in over 120 countries. Some 31 million certified hectares of land are used for this activity, on a little over 623,000 certified farms. Global sales of organic products topped US\$27.8 billion in 2004, with more than 1500 organic products

available in the marketplace and an average rate of growth of 9% per year. However, sales of these products account for only 1-3% of all foodstuffs sold worldwide. The most important consumers are North America and Europe, which account for 49% and 47%, respectively, of the organic products consumed around the globe.

Of the 31 million hectares of land used for organic production around the world, 7.8 million (25%) are to be found LAC, which is home to 33% of the world's certified farms. Four countries in the region figure among the 10 countries with the largest acreage of certified organic production: Argentina (3.5 million ha.), Brazil (887,637 ha.), Uruguay (759,000 ha.) and Chile (639,200 ha.). Mexico has the largest number of certified farms of any single country in the world (120,000 farms in 2004). The average size of 2.5 ha. per farm highlights an important common feature: most belong to small producers. Agro-tourism and rural tourism are also offering producers opportunities to diversify their activities and create alternative sources of income. Some Caribbean, Central American and South American countries have already implemented important initiatives in this field.

The use of agriculture as an alternative energy source has once again come to the fore, due to the high prices of fossil fuels. There is strong, renewed interest in an issue

that first took center stage during the second oil crisis in the 1980s. Specific crops, such as sugarcane and corn, and fast-growing forest species are used, respectively, to produce agro-energy - energy for transportation and heating.

For example, sugarcane, grains and sugar beet are currently used to produce ethanol, which has become a popular substitute for gasoline. Biodiesel, on the other hand, is made from vegetable oils and can be used instead of conventional diesel. Ethanol accounts for nearly 90% of total bio-fuel production and biodiesel, for the other 10%.

World production of ethanol for use as fuel more than doubled between 2000 and 2005, while the production of biodiesel, a more recent development, increased almost fourfold.

Brazil, which for over three decades has had an ambitious program for producing gasoline substitute (ethanol) from sugar cane that has enjoyed strong government backing and large private investment, recently launched programs for the production of biodiesel. The United States is heavily committed to the production of both ethanol and biodiesel and is spearheading the conversion of grain (especially corn) into ethanol, making the process more efficient and lowering costs. With Brazil, it recently launched a major

initiative to promote the development of bio-fuels.

However, concerns have been raised about the impact of diverting grain production to generate energy instead of to provide food for humans and animals.

### **viii. Family agriculture is important but undervalued**

Historically, family agriculture has been important in the rural milieu of the Americas. However, this type of agriculture has yet to reap the benefits of trade liberalization and the farmers remain mired in extreme poverty.

Although there is no single definition of the term “family agriculture,” and there may be conceptual differences in every country of the hemisphere, there is a general consensus that family farmers live on their agricultural production unit and are highly dependent on agriculture to meet their basic needs. The workforce usually consists of family members, while seasonal workers may be hired occasionally. Only farmers who own their own land are usually included in this category, but there is a lack of consensus as to the importance of the market in their activities. Some experts argue affirm that they are never involved in the market, while others argue that they trade their surpluses.

Although family agriculture suffers from major technological, budgetary and market-related constraints, there is no doubt that it makes a significant contribution not only to agricultural production, but also to the economic wellbeing of the poorest segments of the population.

The importance of family agriculture to agricultural production as a whole has been demonstrated in several studies conducted in the countries of the Southern Region, which have highlighted its true contribution to agricultural value added and the creation of employment in rural areas. It is estimated that in Argentina family farms make up 65.6% of all production units, contribute 20% of the gross value of Argentine production and generate roughly 53%

of jobs in rural areas. In Brazil, family agriculture accounts for nearly 40% of the total value of production (on only 30.5% of all available farmland) and absorbs 76.9% of all agricultural workers.

Given the socioeconomic characteristics of family agriculture and its ties with the rural milieu, households that depend on family agriculture spend a large slice of their income on food and other locally produced items. The multiplier effect for reducing poverty is much greater than in urban areas, since any activity that stimulates demand or rural employment not only benefits the direct recipients but also increases the number of local transactions and encourages the development of products with greater value added.

## *Equity improving in rural territories*

### **i. Poverty is on the decline, but the rural milieu continues to be impoverished**

Poverty and indigence<sup>12</sup> have long been major problems in the rural areas of LAC. For example, in 2005, almost 60% of the rural population was poor, and 33% indigent. While still quite high, these figures are lower than those

reported from 1980 to 2004. Thanks to progress made between 2000 and 2005, the levels of both poverty and indigence fell below those of 1980 for the first time in the last year of this period.

The most recent data from the Economic Commission for Latin America and the Caribbean (ECLAC) indicate that rural poverty

Poverty and extreme poverty in rural areas fell during the first half of the decade

**Table 3**

*Latin America and the Caribbean: incidence of poverty and extreme poverty, by area, 1980-2005, percentages.*

Year	Poor			Extreme Poor		
	Total	Urban	Rural	Total	Urban	Rural
1980	40.5	29.8	59.9	18.6	10.6	32.7
1990	48.3	41.4	65.4	22.5	15.3	40.4
1997	43.5	36.5	63.0	19.0	12.3	37.6
2000	42.5	35.9	62.5	18.1	11.7	37.8
2001	43.2	37.0	62.3	18.5	12.2	38.0
2002	44.0	38.4	61.8	19.4	13.5	37.8
2003	44.2	39.0	61.1	19.1	13.7	36.4
2004	42.0	36.9	58.7	16.9	12.0	33.1
2005	39.8	34.1	58.8	15.4	10.3	32.5

Source: ECLAC (2004, 2005 & 2006)

and indigence rose to their highest levels in LAC in 2001, and then began to decline steadily until 2005.

From around 2000 to around 2005, poverty declined in all 15 countries for which information is available, and indigence in 13 of them. In the latter case, the two exceptions were Honduras (between 1999 and 2003) and the Dominican Republic (between 2000 and 2005), where slight increases in indigence were reported. The most significant reductions occurred in Paraguay, El Salvador, Mexico and Brazil (Figure 5, Chart A).

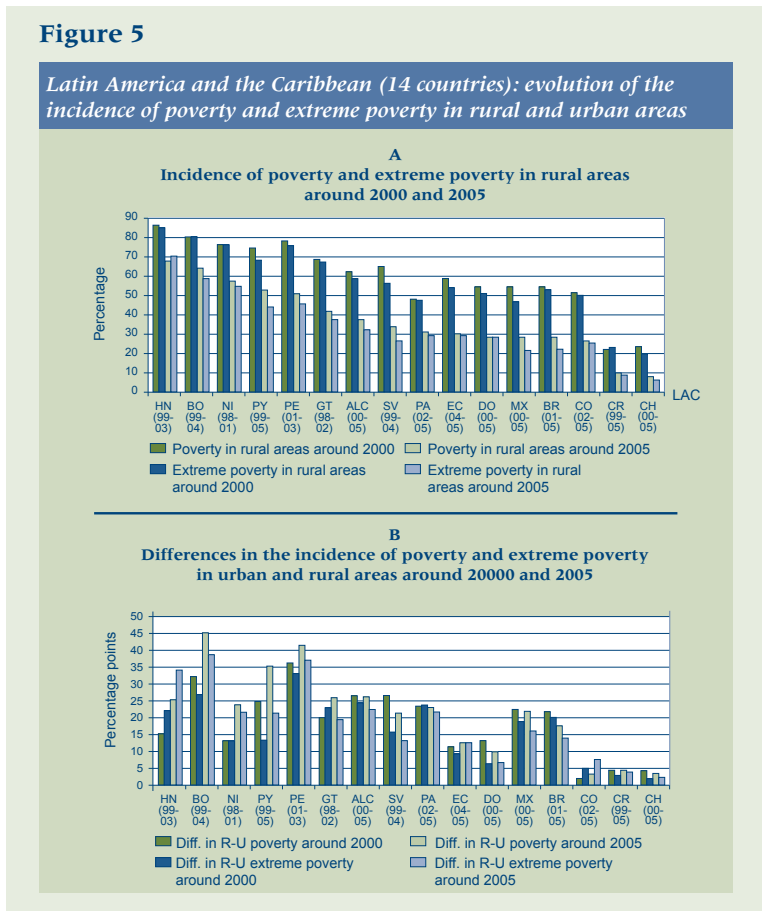
It should also be pointed out that, as a result of this positive trend in

the incidence of rural poverty and indigence, the gaps between rural and urban areas in relation to both phenomena were narrowed in a majority of countries. This was true for LAC as a whole and at the country level in Bolivia, Nicaragua, Paraguay, Peru, El Salvador, Ecuador, Dominican Republic, Mexico, Brazil, Costa Rica and Chile. In Colombia and Honduras, the gaps widened because of a major drop in the level of indigence in urban areas. Despite progress, both levels continue to be considerably higher in rural areas: around 2005, the gaps between rural and urban poverty and indigence ranged from less than 5 percentage points in Chile and Costa Rica, to more than

20 percentage points in Honduras, Bolivia, Paraguay, Peru and Panama.

The most notable reductions in the gaps were reported in Bolivia,

Paraguay, El Salvador, Mexico and Brazil. The greatest gaps continue to exist in the area of indigence, with Bolivia and Peru showing rates as high as 35 percentage points.



Source: Prepared based on ECLAC data (2006, Table 4 of the Statistical Appendix)

**ii. Poverty is not uniform in rural labor markets**

One phenomenon that characterizes rural labor markets in Latin America is the direct relationship between the importance of agriculture as a

source of employment and the incidence of rural poverty, which underscores the importance of having a diversified rural economy. In all the countries for which information is available, the incidence of poverty among those who are self-employed

in agriculture is greater than the incidence of poverty among the total employed population and the total self-employed population. The incidence of poverty among those self-employed in agriculture exceeds 70% in Honduras, Bolivia, Nicaragua, Peru, El Salvador, Guatemala and Paraguay.

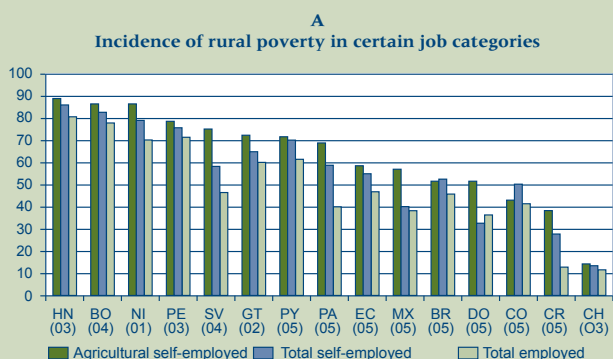
The differences between Costa Rica and Chile, the countries with the lowest rates of rural poverty and indigence, are notable. In Chile,

the incidence of rural poverty is very uniform, which translates into a distribution of the employed rural population which is very similar to the distribution of total employed poor rural population. In contrast, in Costa Rica, self-employed workers are at a considerable disadvantage with respect to salaried agricultural workers.

The above is supplemented with information on the occupational profile of the poor employed rural

**Figure 6**

*Latin America and the Caribbean (14 countries): incidence of rural poverty in certain job categories, around 2005*



Source: Prepared using ECLAC data (2006. Tables 8 and 10 of the Statistical Appendix)

population, illustrated in Chart B of Figure 6. Self-employed agricultural workers account for more than 50% of said population in Peru, Bolivia, Paraguay, Panama, Brazil, Ecuador and Nicaragua, and more than 30% in the other countries, except Costa Rica, Chile and Mexico. In those three countries, as well as in El Salvador and the Dominican Republic, most of the rural employed are salaried workers.

### iii. Inequality in the distribution of rural income is on the decline

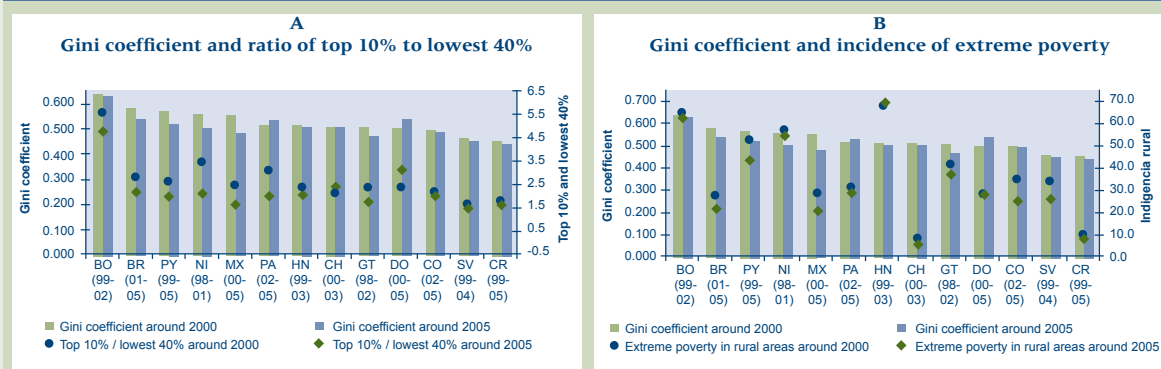
According to the World Bank (De Ferranti, et. al., 2003),<sup>13</sup> LAC is the most unequal region in the world in terms of income distribution. However, there are signs of change both at the national level and in

rural areas. According to data from ECLAC,<sup>14</sup> from the end of the 1990s through the first half of this decade, the distribution of rural income improved in 11 of the 13 countries for which information is available; the only exceptions were Panama and the Dominican Republic.

Interestingly, some of the most significant improvements have taken place in countries with the greatest inequality, such as Bolivia, Brazil, Paraguay, Nicaragua and Mexico. Also, there is a correlation between the improvement in income distribution and the reduction in indigence. In 10 of the 11 countries in which the distribution of rural income improved, rural indigence declined. The only exception was Honduras (Figure 7, Chart B).

**Figure 7**

*Latin America and the Caribbean (14 countries): evolution of the distribution of rural income between around 2000 and around 2005*



Source: Prepared using ECLAC data (2006. Tables 4, 13 and 16 of the Statistical Appendix)



**iv. Increased vulnerability hurts the rural poor the most**

Generally, those most affected by natural disasters are poor and live primarily in rural areas. They are more vulnerable for several reasons: they live in makeshift housing; have limited access to expensive land (forcing them to work or live on land prone to landslides, floods and drought); have little money to invest in preventive measures; and

usually are less capable of recovering from disasters.

Based on information in the EM-DAT data base,<sup>15</sup> it is estimated that from 1990-2006 some 96,000 people died as a result of natural disasters in the hemisphere: 11.4% in the Northern Region; 25.8% in the Central Region; 9.1% in the Caribbean Region; 51.1% in the Andean Region; and 2.7% in the Southern Region. Table 4 shows the distribution of deaths by regions and type of disaster.

**Table 4**

*Deaths caused by natural disasters, by region and type of disaster, 1990-2006.*

Events	Regions					Total
	Northern	Central	Caribbean <sup>1</sup>	Andean	Southern	
Droughts	0	41	0	0	12	53
Earthquakes	208	1.461	4	2.183	22	3.878
Epidemics	466	1.256	81	11.849	323	13.975
Extreme temperatures	2.632	7	0	469	58	3.166
Floods	2.105	960	3.753	32.439	1244	40.501
Landslides	70	292	12	1.791	666	2.831
Storms	5.271	20.717	4.833	189	185	31.195
Other	136	2	32	28	48	246
<b>Total</b>	10.888	24.736	8.715	48.948	2.558	95.845

<sup>1</sup> Includes Guyana, Suriname & French Guiana

Source: Prepared based on information found in the EM-DAT database (<http://www.em-dat.net/>) on 14 March 2007

The two natural phenomena that cause most of the deaths are floods (42.3%) and storms (32.5%). Storms cause more deaths in the Northern, Caribbean and Central Regions, and floods in the Andean and Southern Regions. Of particular note is the fact that 50% of deaths due to natural phenomena in the Americas occur in the Andean Region, mostly from floods.

The preceding data underscore the vulnerability of three regions to weather-related phenomena which generally have a major impact on agriculture and rural areas:

- a) the Central Region, to drought and tropical storms;
- b) the Caribbean Region, to tropical storms; and c) the Andean Region, to floods.

Regional averages, however, conceal significant national differences and the effects of severe events. For example, according to data from 1990-2006:

- 93.1% of deaths from floods in the Andean Region, more than 30,000 people, occurred in Venezuela. However, almost all those deaths can be attributed to a flood that occurred on December 15-20, 1999, affecting the Federal District of Caracas and the states of Miranda, Vargas, Nueva Esparta, Yaracury,

Falcon, Carabobo, Zulia and Tachira.

- 70.9% of deaths from storms in the Central Region, more than 14,000 people, occurred in Honduras. However, almost all of these deaths can be attributed to Hurricane Mitch, which occurred in late October-early November 1998.
- In the Caribbean Region, more than 95% of deaths from floods and storms occurred on the island of Hispaniola: from floods, 76% in Haiti and 19.8% in the Dominican Republic; from tropical storms, 87.1% in Haiti and 8.5% in the Dominican Republic.
- In Haiti, more than 90% of deaths from tropical storms can be attributed to Hurricanes Gordon (September 1994) and Jeanne (September 2004). More than 90% of deaths from floods occurred in May 2004.
- In the Dominican Republic, more than 90% of deaths from floods occurred as a result of the same storm that hit Haiti in late May 2004. More than 80% of deaths from storms occurred as a consequence of Hurricane Georges, in September 1998.
- The number of people killed in the five preceding events equals 71% of the estimated deaths due to storms and floods in the Americas from 1990-2006.

**v. Education has an adverse effect on the competitiveness of agriculture and rural equity**

Even though it has been demonstrated that education has an impact on the workforce, such as increased production while using the same amount of factors, greater efficiency in the allocation of resources and improved adaptation of new production techniques, LAC still exhibits significant shortcomings in terms of both the coverage and quality of education. These shortcomings are much more evident in rural areas, where the average number of years of schooling for the population above 25 is half of what it is in urban areas.

The principal difficulties identified in instituting successful educational systems for the rural population in LAC are:<sup>16</sup>

- limited access, especially in remote areas or areas with a sparse population;
- the lack of pre-school programs;
- the failure of children to enter elementary school, or the tendency to drop out early;
- schools that offer classes for certain grades only;
- a “bias” in favor of urban areas, and a single curriculum which is not attuned to the needs and interests of the rural population;
- failure to adapt the language of instruction to the culture of the rural population;

- the opportunity cost of studying (work vs. education), with many dropping out at an early age;
- a greater incidence of illiteracy (compared with urban areas) and of functional illiteracy, especially among women;
- differences in the number of boys and girls enrolled;
- deficient infrastructure and equipment (textbooks and other school materials), and teachers who are poorly prepared and not properly supervised;
- a lack of secondary schools in rural areas;
- fatigue, from work or going back and forth to school, which hinders scholastic performance; and
- undernourishment and poor health of school children.

**vi. Food security is improving in the North and South, but progress is limited in the tropics**

Food security refers to the situation in which, throughout the year, people have access to the quantity and variety of safe food they need to live active and healthy lives. Countries cannot achieve food security as long as their peoples suffer from undernourishment and hunger.

The framework for analyzing food security was established at the World Food Summit (WFS) held in Rome in 1996, at which the Heads of State and of Government

pledged to reduce the number of undernourished people by half in 2015. To accomplish this, they would have to reduce annually the percentage of undernourishment by some 2.6% from the 1996 level. If they are in compliance, by 2004 the countries should have reduced their levels of undernourishment by more the 21%.

To date, no developing region has achieved the necessary reductions. The Near East-Northern Africa and LAC regions came the closest, with average annual reductions of 1.25% and 1.14%, respectively (i.e., 10% and 9% between 1996 and 2004).

In 2004, of all developing regions, LAC had the second lowest level of undernourishment (10%), thanks to the fact that it had reduced the number of undernourished people by 23% in comparison with the levels exhibited at the beginning of the 1990s. However, at the subregional level, performance was heterogeneous.

Mexico is the country of LAC with the lowest level of undernourishment, which did not improve in the 14 years studied (1990-2004). South America, with the second lowest level of undernourishment, is the region that has made the most progress, reducing its levels of undernourishment by some 35% since 1990.

The situation in the tropics is less promising. The countries of Central America have been less than successful in reducing their levels of undernourishment. In this region, such levels have risen in comparison with the early 1990s, which historically had been very high and exceeded only by the Caribbean. The Caribbean, despite being the region with the highest levels of undernourishment, which worsened greatly in 1995-1997, has made significant progress in recent years. As a result, undernourishment there has been reduced by 22% from the 1990 level.

### *The imperative of sustainable agricultural and rural development: some success stories*

As pointed out in the Millennium Ecosystem Assessment, conducted in 2005, the sustained economic development achieved by the countries has come at the cost of the environment. If something is not done to correct the damage

done, future generations will not be able to derive the full benefits from ecosystems.

Given the need to feed a world population that has doubled in the last 50 years, 37% of the world's

land surface is used today to produce crops, using production systems that are degrading natural ecosystems.<sup>17</sup>

Agriculture is an economic activity which, in addition to contributing to the deterioration of the environment and natural resource base, will be significantly impacted now and in the future by variables such as climate, water, forests, soil, desertification and ecosystems.

### **i. Water**

More than 45% of the fresh water in the world is found in the Americas, and some countries in this region (Brazil, Colombia, United States and Peru) are considered giants in terms of water resources. Both worldwide and in the hemisphere, agriculture consumes more water than any other sector (69% to total volume extracted). This can be explained in part by the fact that the amount of land under irrigation has grown at a rate of 2% per annum for the last 30 years, i.e., an increase of 100 million hectares. This increase in the use of irrigation has had environmental costs that will significantly reduce the amount of water available for agriculture. Some of the most serious results of irrigation are land salinization, soil waterlogging, water contamination, eutrophication and the unsustainable use of aquifers.

### **ii. Forest products and services**

No other region of the world rivals LAC in terms of forest cover. However, over the last 15 years, this cover has been reduced significantly, from 49.2% in 1990 to 45.8% in 2005, which is equal to 23.3% of total forest cover worldwide.

Of all the natural forests in the region, 53% are found in Brazil and 27% in the Andean countries. The Southern Cone and Mexico account for 7% each, the countries of CARICOM 4% and Central America 2%.

In most of the countries of the hemisphere, the expansion of the agricultural frontier and uncontrolled logging have reduced forest cover. In contrast, there are five countries where efforts aimed at increasing forest cover have yielded important results in the last five years: Cuba, Costa Rica, United States, Chile and Uruguay.

Decision makers and civil society are becoming aware of the social and economic benefits of forests for agriculture (contribution to conservation of biodiversity, production of goods, protection of soil and water, etc.). As a result, almost all the countries of the hemisphere have increased their efforts to expand forest cover and to create new biodiversity conservation areas. At present, some 21.5% of the forest cover of the continent is set aside for biodiversity conservation.

### **iii. Soil and desertification**

Agriculture, more than any other economic activity, has contributed to desertification, mostly as a result of intensive agriculture/grazing, of deforestation and of inappropriate irrigation practices. It is estimated that desertification poses a direct threat to more than 250 million people and to a third of the Earth's land area (more than 4 billion hectares). Likewise, it threatens the subsistence of more than 1 billion people in more than 100 countries who depend on the land for most of their needs and are usually the poorest inhabitants of the Earth. In this hemisphere, while 30% of the land in the United State is affected by degradation, one fourth of the land in LAC is classified as deserts or drylands.

### **iv. Marine ecosystems and resources**

Even though in recent decades 20% of the corral reefs and 35% of the mangrove swamps in the world have been lost, the total fish catch in LAC increased by more than 31% in 2004. This contrasts sharply with the situation in other regions, where the depletion of fishing stocks has made it necessary to turn to other species that are less profitable, less harvested or not harvested at all, which over time will lead to a change in the make up of the catch. The increase in the total fish catch in LAC does not mean that this region has an

abundance of marine resources. To the contrary, most of the species caught are moderately or fully harvested, with a high percentage also being species that are over fished and depressed, especially in the southeast Pacific and the southwest Atlantic.

### **v. Climate**

One result of the increase in industrial and agricultural activities has been the accumulation of carbon, methane and nitrous oxide (greenhouse gases) in the atmosphere, which has had a major impact on climate around the globe. These human activities have caused important changes to take place in temperature, rainfall, salinity of oceans and wind patterns, which have resulted in the arctic thaw, heat waves, and the intensification of cyclones in the tropics.

The effect of variations in climate on the potential for agricultural production will depend on geographic location. While some developed countries in the medium latitudes, especially the northern latitudes, may show net gains, many developing countries in the tropics may face even greater difficulties related to climate and increased variability of rainfall.

The relationship between agriculture and climate change must be viewed from two angles. On the one hand, the

*The percentage of poor people in LAC fell from 44% to 39.8% between 2005 and 2006. The figure for the extreme poor declined from 19.4% to 15.4% with respect to 2002 (ECLAC, 2006)*

manifestations of climate change (especially changes in temperature, rainfall and water level, as well as the increase in extreme weather events), will have an impact on agricultural productivity and will

demand adaptation on the part of agricultural producers. On the other, agricultural activities can play a decisive role in mitigating the greenhouse effect which is causing climate change.

### *Slow progress in improving governance in agriculture and rural life*

#### **i. Governance in agriculture and rural development: political-institutional considerations**

Democratic governance requires that governments and the different social sectors be capable of working together in the long run to achieve three objectives: a) market-based economic growth; b) satisfactory levels of equity and social protection; and c) greater citizen involvement in political/policy decisions.

In LAC, considerable progress has been made in the last two decades in strengthening democracy, and a quick review of the three objectives of democratic governance mentioned above yields some general conclusions:

As regards the **challenge of market-based growth**, viewed in terms of growth in production and exports and lower inflation, there has been important progress in the region in recent years. This has

had important social ramifications, such as the reduction of poverty.

Nonetheless, the effective operation of the markets in the countries of the hemisphere is still hindered by factors such as the application of partial and, sometimes, poorly directed approaches. The most important distortions in the markets originate in policies designed to reform the State which debilitated the institutional framework of agriculture and rural development, led to reductions in public spending, lowered the quality of services and related personnel, and made the labor market more unstable.

As regards **equity and social protection**, efforts to promote equity were not as successful as those aimed at reducing poverty. However, the countries of the hemisphere were able to slow the increase in inequity under way since the early 1990s; nonetheless, the region continues

to be highly inequitable. Poverty and the lack of social services affect women (especially heads of household), indigenous peoples, and Afro-descendants, as well as other minorities, the most. This exclusion, which is reflected in employment and educational opportunities, access to health services, etc., hinders the negotiation and consensus building needed to achieve governance.

There has also been an increase in citizen participation. The poor and the socially excluded have begun to participate in movements that lend legitimacy to their demands, in an attempt to improve their bargaining position in negotiations. Also, local and regional governments have proposed a number of new development models designed to include the citizenry in decision making. This not only brings legitimacy to local policies, but allows rural inhabitants to be more proactive. Even though these efforts are relatively new, good results have been achieved in rural territories in Northeast Brazil, Ecuador, Colombia, Mexico and many other countries of LAC.

**ii. The new dynamic of the integration processes: trade policy in the region**

More than a decade has passed since Canada, the United States of America and Mexico signed the North American Free Trade

Agreement (NAFTA). The results in terms of trade liberalization are promising and trade among the countries has grown considerably: for example, Mexico's exports tripled between 1993 and 2004, and its imports increased by 161% in the same period.

In contrast, even though the four other established regions (MERCOSUR, Andean Community, Central America and the Caribbean) now have free trade zones and have attempted to establish customs unions, political, social or economic problems in the countries have threatened these processes and have caused the different subregions to advance at different paces and with differing degrees of success.

In the Central Region, thanks to the establishment of the Central American Common Market (CACM), almost all goods (except coffee and sugar) flow freely among the countries of Central America and obstacles to free trade have been reduced significantly, including progress in facilitating movement through internal customs facilities. At present, some success is reported in efforts to create the Central American Customs Union. Furthermore, the CACM has been more successful in harmonizing tariffs than any other trade integration schemes in LAC. It has established a common external tariff, with four sub-tariffs that vary from 5% to 20%; and as of

*One of the chief lessons learned from the Latin American experience is that successful development policies include mechanisms for the participation of the general public in their design, execution and evaluation that make it possible to adapt the incentives locally.*



April 2007 94% of all tariff headings had been agreed upon in the five countries of Central America.

The five countries of CACM have signed free trade agreements with the United States (the CAFTA-RD, which also includes the Dominican Republic), and Panama is moving forward in negotiations with the same country. Also, as a region, the countries of Central America are beginning negotiations with the European Union to sign an Economic Partnership Agreement (EPA).

In the Andean Region, even though the member countries of the Andean Community agreed in 2002 to apply a more unified common external tariff, which included 62% of the tariff universe, its adoption has been delayed on several occasions. As a result, the Andean countries are authorized to apply the tariffs in place in each of them. Also, the average tariffs applied to agricultural products are more variable than the general average, even without considering the tariffs peaks or the fact that four of the countries have price band systems in place for specific products.

The regional institution responsible for the integration processes, the General Secretariat of the Andean Community of Nations (CAN), is going through a transition period due to the withdrawal of Venezuela as a full member. This

development may have important ramifications for the region since Venezuela accounts for 60% of regional GDP, 49.6% of total exports and 32% of total imports. Also, Chile rejoined the Secretariat as an associate member.

At present, in the CAN, non-member countries are welcome to join and there are a wide variety of agreements on and approaches to trade and political negotiations which are being debated simultaneously: NAFTA, ALBA, free trade agreements with United States, Chile and Mexico; agreements with the European Union and the Peoples' Trade Agreements (TCPs). Also, some of the countries in the region have expressed interest in merging the Andean Community of Nations and the Common Market of the South (MERCOSUR) to form the South American Community of Nations.

As for MERCOSUR, the operation of this free trade area has been affected by the economic instability that prevailed in the region in the 1990s and the early years of this decade. Specific tariffs have been established for certain imports, controversies have existed in the poultry, pork and wheat sectors, and differences have arisen recently between two countries (Argentina and Uruguay) on the issue of paper mills. Efforts to convert the MERCOSUR into a customs union have not been successful to date, and some 800 exceptions

or special treatments exist in the member countries, all of which constitute obstacles to effective integration.

The countries of the MERCOSUR, with the recent incorporation of Venezuela and its trading partner Chile, make up a region that is becoming one of the most important producers and suppliers of agrifood products for international markets. The inability of the countries of the MERCOSUR to fully integrate reflects to a great extent the problems resulting from the asymmetry among the member states, conflicts due to differences in political-economic interests, and the shortcomings of mechanisms for coordination and integration of subregional positions on agricultural issues (agricultural policies and international agricultural negotiations).

The entry of Venezuela comes at a time when the MERCOSUR, as integration process, is being questioned. At the regional level, it is necessary to address issues such as compliance with rules related to market access, and the adjustment of the common external tariff, above all with a view to embarking upon an even more ambitious process: the formation of the South American Community of Nations.

In CARICOM, the decision was made to create the CARICOM Single Market and Economy

(CSME). The most important advances in this process have been made by Trinidad and Tobago, Jamaica and Barbados. However, some countries of the region have been hampered by financial and institutional restrictions and weather-related problems. Some countries have failed to comply with rules related to market access, and others still apply non-trade barriers.

One of the most important efforts in the region is the Jagdeo Initiative, undertaken by the countries of CARICOM to restore the potential of Caribbean agriculture and improve its position on national and regional markets. Under the initiative, a new policy and operational structure is being developed, one in which the support mechanisms which historically have existed for agriculture are systematized. Also, new actions are proposed to implement policies aimed at transforming agriculture in the region and to coordinate the efforts of governments, the private sector, civil society and international organizations.

Mexico and Chile, which are not formal members of the subregional trade integration mechanisms mentioned above, have established free trade agreements with some countries of the region. Also, several countries of LAC are promoting free trade agreements as alternatives to the stalled Doha Round negotiations,

and have attached special importance to the establishment of trade relations with the countries of Asia, which constitute an important market.

### **iii. Important changes in policies and institutions**

In several countries of the region, important legal and institutional reforms have taken place in the agricultural and rural institutional framework in recent years. Also, agro environmental policies are now appearing as a result of trade pressures (demand for clean and environmentally friendly products) and the growing need to adopt sustainable environmental management processes.

In the Northern Region, the agricultural policy of the United States, whose subsidies to producers reached record levels in 2005 (US\$23 billion dollars), up US\$3 billion from 2004, underwent a series of rapid reforms aimed at ensuring that agricultural production is driven more by the interests of consumers. In Canada, the five-year policy framework approved in 2003, known as the second generation of the AAFC Agriculture Policy Framework, is still in place, and a new strategy in the area of science and technology was launched in May 2006. In Mexico, during 2006, the changes introduced by the preceding administration were consolidated,

including the Sustainable Rural Development Act, enacted in December 2001 and regulated in October 2004.

In the Central Region, the most notable development is the decision of the countries to move forward in adopting a new Central American Agricultural Policy, which is being formulated and will be implemented within the framework of the Central American Integration System (SICA). The commitment to formulate a common policy for agriculture includes Belize and Panama, which are not formal members of the Central American economic integration process, but do participate in the Central American Agricultural Council (CAC), made up of the ministers of agriculture of the region.

Additionally, transformation processes are under way in most of the countries, including an overhaul of the institutional framework for agriculture in Costa Rica, which involves converting the Ministry of Agriculture and Livestock into the Ministry of Production; the creation of a Rural Development Cabinet in Guatemala, to ensure the effective and coordinated implementation of public-sector rural development activities ; and the participatory formulation, in Honduras, of a State Policy for the Agrifood Sector and the Rural Milieu from 2004-2021.

In the Southern Region, efforts continue to add value to the agricultural sector and rural life, while at the same time underscoring the importance of developing agroexports and family agriculture. To this end, sectoral mechanisms have been developed for regional coordination and consultation, such as the Southern Agricultural Council (CAS) and its technical support networks. Furthermore, regional initiatives have been promoted in the areas of competitiveness, animal and plant health, food safety, biotechnology, agro-energy and agricultural emergencies.

In the case of the South, while various agricultural policies<sup>18</sup> are considered “successful,” some macro policies have had adverse effects, such as the exchange rate delay affecting almost all of the countries in the region. In Chile, particularly noteworthy are the transformation of the Ministry of Agriculture into the Ministry of Agriculture and Food, and the formulation of a policy for the agricultural and rural sector aimed at making Chile into one of the top ten agrifood powers in the world by 2015.

In the Andean Region, currently in a period of transition, some regional initiatives such as the Comprehensive Social Development Plan, approved by the Andean Councils of Ministers of Foreign Relations and Social Development, will have to be

renegotiated in light of the institutional changes taking place.

At the national level, institutional changes have been made to promote decentralization and the strengthening of the role of local and regional organizations. Examples include: a) the Development Plan of Bolivia, which assigns a key role to municipalities; b) the decentralization of the duties of the State agricultural institutional framework which is taking place in provinces and municipalities of Ecuador; c) the projects being executed by states and municipalities in Venezuela; and d) the creation and/or strengthening of institutions such as the Council of Secretaries of Agriculture of the different departments of Colombia.

The variety of approaches to development in the region affects the institutional framework of the region. Thus, while Venezuela, Bolivia and, more recently, Ecuador are moving forward in the search for a new paradigm for development, Colombia and Peru favor a strategy intended to promote competitiveness and the development of an internal agenda aimed at enabling those who currently are not in a position to compete, to do so in the future.

As for the Caribbean Region, the regional agricultural policy defined under the Jagdeo Initiative establishes policies and programs

aimed at obtaining the following results by 2015:

- A significant contribution by the agricultural sector to regional and national development, as well as to economic, social and environmental sustainability.
- Creation of a transparent regulatory framework for the agricultural sector that will promote and facilitate research and the attraction of capital.
- Transformation of agricultural processes and products, as well as the strengthening of the capacity for innovation in business for farmers and rural communities of the Caribbean.
- An acceptable level of food self-sufficiency in the Caribbean Region, which cannot be threatened climate and natural disasters.

#### **iv. Public spending, investment and rural finance**

Public spending is one of the instruments governments can use to promote social and economic development in rural areas. Public spending on rural areas of the countries of LAC accounted, on average, for almost 6% of total spending in 1985-2001, considerably below the average contribution of agriculture to development.<sup>19</sup>

Average per capita rural spending for the region fell from US\$222

in 1985-1990 to approximately US\$140 in 1996-2001. Only Uruguay, Chile, Brazil and Mexico, in descending order, spent more than the regional average, while Argentina almost equaled the regional average of US\$140. Costa Rica, Venezuela, Jamaica and Mexico reduced by more than half their spending on agriculture per rural inhabitant from 1996-2001, in comparison with the figures for 1985-1990. The opposite was true in Peru, Bolivia and Honduras, which more than doubled the allocation of resources per rural inhabitant. Despite this, these figures are still not near the regional average. Chile and Uruguay have doubled the allocation of resources per inhabitant and boast the highest figures in the region.

It is necessary, however, to consider not only the amount, but also the quality and efficiency of public spending earmarked for rural areas, since its impact will depend on what the resources are earmarked for. Even though little information is available on the topic, in a study conducted in Mexico (Kjöllerström, 2004),<sup>20</sup> in which the impact of public spending on the competitiveness of the agricultural sector and the well-being of rural households was evaluated in detail, the positive and differentiated effects of public policies on the development of rural areas are underscored.

As for investment and rural finance, agriculture and the rural milieu in LAC are characterized by not only a lack of investment, but also by limited access to both public and private financing. Furthermore, the availability of private financial services in the rural milieu of LAC has not increased at the same rate as in other developing countries (especially Asia).

There are many causes for this: high levels of risk, natural disasters, problems with collateral, questions regarding land ownership, lack of coordination in agrifood chains, among others. Recently, some are again suggesting the creation of banks specializing in agriculture or development banks, but this time ones that will not repeat the mistakes of the past and will promote the co-participation of producer organizations.

Given the scarcity of bank financing, many continue to seek money from non-bank intermediaries, which generally turns out to be very expensive. A recent FAO study<sup>21</sup> showed that agricultural marketing chains are self-financed (40-80%) and financed via deals with other links in the chain (10-30%), resources requested from institutions (10-30%), resources from moneylenders (10/20%) and resources provided by family members and friends (0-10%). The same study concluded that

this credit system, given its informal nature, restricts the growth of businesses.

Multilateral development banks (MDB) are again earmarking resources for agriculture. Due to bad experiences in the past, they had abandoned the sector in favor of more profitable and less risky sectors such as telecommunications, energy, industry and tourism. Some of the most important MDBs are again turning their attention to rural development and have directed their actions at strengthening rural finance through loans, grants, guarantees and technical assistance.

World Bank funding for rural development declined from more than US\$580 million in 2001 to less than half that figure by 2006 (US\$236.5 million). IDB funding grew by 18% between 2004 and 2005, due primarily to an increase in loans to Venezuela, Colombia and Brazil. At the end of 2005, the active IDB portfolio stood at US\$35.9 billion. Even though this figure grew with respect to the two preceding years, it is still well below the financing provided by that institution in 1999 (US\$46.6 billion).

#### **v. Protecting against risk**

It is well known that the agriculture involves risks, natural

and man-made, that affect production, and therefore, the incomes of agricultural producers.

It is necessary to reduce these risks, which are largely uncontrollable. Governments and the private sector have found it necessary to apply strategies aimed at stabilizing the incomes of producers to counteract such risks: one instrument they have used is agricultural insurance.

The insurance markets of the developed countries have built-in guarantees, are strictly regulated by the government and comprise almost exclusively private insurers. The State subsidizes the cost of insurance for producers and increases the amounts that can be insured, in some cases covering 100 per cent of any loss suffered (INTA Argentina, 2002).<sup>22</sup> Furthermore, it covers those risks not insured by the private sector. In those countries, it is common for funds to be used to stabilize net incomes, in order to ensure minimum profitability.

In contrast, developing countries in which agriculture is an important sector have not managed to develop a system of public and private guarantees that is commensurate with the importance of the sector (INTA Argentina, 2002). This is the case in most of the countries of LAC. The basic causes are periods of instability in their economies and the lack of public resources. . In

general, the insurance offered by companies covers only specific risks and does not cover all events producers could be exposed to, which does little to encourage producers to join the insurance program.

The situation in the insurance market in the countries of the Americas varies. In first place are the United States and Canada, where the insurance markets are highly developed and the government regulates and subsidizes the insurance system, meaning that many producers are covered.

A second group is made up of Argentina and Mexico, countries that show important progress in levels of coverage and in the insurance market as a whole.

Lastly, the other countries of LAC are characterized by a small insurance market, insurance for only a few crops and little progress in the development of this market. The insurance systems that do exist are private, public-private or public. The incentives used in these systems differ: tax deductions, subsidized premiums, low interest rates, financing for the purchase of inputs, etc. Despite this, in many countries of the region the insurance market is being promoted by private insurance companies, which the public administration supports to differing degrees.

# *The outlook for agriculture and rural life in the Americas*

## *The global scenario and agricultural markets*

Based on what happened at the start of this decade, and assuming there is no external shock over the next ten years that drastically alters the performance of markets, the global outlook for the next decade is as follows:

- It is estimated that the world economy will grow by around 3.4% per year between 2007 and 2016. Although the developed countries will continue to drive the global economy, the developing countries will have much higher rates of growth. While the economies of the United States and the European Union will grow by 3% and 2.5%, respectively, those of the developing countries will expand by an average of 5.6% per annum.
- Latin America will be the developing region with the lowest rate of growth (3.6%), with all the other developing regions achieving average annual growth of over 5%. The economies of the developing countries in Southeast Asia will expand by roughly 5%, while the figure for those of East Asia will be 7%. China and India will experience the strongest annual economic growth (8%

and 7%, respectively), while the real income of their peoples will rise and a large slice of the population will emerge from poverty.

- The production of bio-fuels will be one of the biggest concerns of the developed and developing countries, mainly due to high oil prices and an expected surge in the global demand for energy in the years ahead. The United States and Brazil will be the countries doing the most to encourage this industry. The United States is currently the world's biggest oil consumer, and while its imports have grown strongly in recent years, its reserves have been shrinking.

Increased demand for the raw materials used to produce bio-fuels will have a major impact on agricultural markets, changing the terms of trade of many commodities:

- Due to the growing demand for grains, especially corn, for use in the production of ethanol in the United States, corn prices will rise more than those of other grains. This will affect not only potential land use, but also the diet of the population.



- The prices of the vegetables used to produce oil will rise more sharply than the prices of oilseeds, because the demand for oil from seeds will fall over the medium term.
- Meat prices will rise, because animal feed producers will have to compete for raw materials with agro-energy producers.
- The prices of poultry and pork will rise more than the price of beef, because dried distillers' grains, a by-product of ethanol production, can be used more efficiently to feed cattle.

### *The competitiveness of agriculture and the rural milieu*

At the macro level, one key factor in the competitiveness of agriculture is the level of protection that governments afford their agricultural sectors and the domestic supports they provide. The liberalization of agricultural markets and the elimination of spurious competitiveness will be only possible if the Doha Round of trade negotiations produces real results.

Although the proposals put forward in recent years will result in an agreement that is acceptable to most countries, consensus on every issue is unlikely. The present impasse in the international negotiations will only be resolved if the United States reduces its agricultural subsidies, the developing countries agree to liberalize both their agricultural and manufacturing sectors, and Europe and Japan lower their agricultural tariffs.

The United States and the European Union will continue

to insist on their products being granted access to markets. This will be only possible if they agree to a tradeoff, reducing domestic supports to their producers. However, any such decision will have a high political cost, since the producers who would receive fewer domestic supports would not be the ones to benefit from further trade opening in international markets.

Since liberalizing agricultural markets has taken longer than expected, the benefits of agrifood trade have not been as substantial as promised. However, over the next ten years they will become more evident, since the growth of the developing economies (5.6% per year over the next decade) will permit agroindustrial producers not only to increase their market share but also to offer products with greater value added.

A large proportion of the new income generated by the developing countries will be

used to purchase food. Increased purchasing power will lead to a more varied diet, a mix of staple foods and more nutritional products and items with value added. This change in the tastes and preferences of new consumers will spur the development of market niches for healthy, organic and native products, ready meals, meat products, etc.

People in the developing countries are expected to use 30-40 cents of each new dollar of income to purchase food products. In these countries, there are now nearly 250 million middle-income households (annual average income of US\$10,000), which spend roughly US\$3000 a year on food. If the income of these households increases by two percent per year, and they spend a further two percent on food, in 15 years they will be spending US\$250 billion more on food.

Although the growing demand for commodities will be a great opportunity for the countries of the hemisphere to increase their share of both local and overseas markets and the value added of their agrifood products, a major effort is also needed to increase their investments in technology and narrow the gap with their competitors. To achieve this, producers not only need to introduce new technologies and produce diversified, clean, tradable goods with specific characteristics, but also to reform institutional

aspects such as intellectual property regulations. This will call for greater management capabilities to foster technological innovation.

The rise in agricultural prices will be sustained over the medium term and have a direct impact on the income of producers and the purchasing power of consumers. Specifically:

- Producers and agricultural workers will benefit directly in the form of higher incomes, unless there are serious obstacles that prevent international prices from being transferred to the domestic market. This injection of income from higher prices could be a very positive development for the alleviation of poverty, which is most severe in rural areas.
- Rising food prices will have a direct impact on consumers' budgets, especially in the case of urban and non-agricultural rural workers, who will not benefit from the higher incomes generated by agriculture.
- There will be a direct, adverse effect on the agricultural balance of trade of the net food importing countries in the Central, Andean and Caribbean regions. This could be offset, to varying degrees, by the higher international prices paid for the tropical products in regard to which some of these countries have a positive competitive advantage.

- Higher grain prices will directly affect the cost of producing balanced animal feed and the final prices of meat and dairy products and eggs.
- Rising agricultural prices, driven by increased demand for products for new uses, will ensure that there are more competitors in domestic and international markets. Thanks to higher prices, certain types of agricultural production will continue to turn a profit, while others will become profitable in places where previously they were not.

As has already happened in other sectors, climate change will affect the competitiveness of agriculture, due to aspects such as the

scarcity of water, the degradation of agricultural soils and the greenhouse effect. As a result, the development of technology for agriculture will take into account not only the impact of climate change, but also other aspects such as biodiversity, human health, gas emissions and the contamination of drinking water.

Finally, the positioning of the countries in the hemisphere will be influenced by their progress in the field of genomics, which could lead to public access to genetic maps of an ever-growing number of species of interest to the agricultural sector and lines of research on genetic improvement (particularly plant breeding).

### *Equity in agriculture and the rural milieu*

Agriculture's role in the economic growth of the developing countries and the benefits of more open trade to the rural milieu will result in better rural poverty indicators in LAC in the years ahead.

According to studies carried out in the region,<sup>23</sup> trade liberalization will lead to increased production of labor-intensive goods in the developing countries, because they have a comparative advantage in that area. Given the large amount of resources available to these countries for agriculture, nearly 50% of the profits generated

by trade liberalization will be absorbed by this sector (US\$100 billion per year). Bearing in mind that 75% of the three billion people who live on less than two dollars a day are to be found in the rural milieu, the creation of a new enabling environment for agriculture (market opening, the consolidation of agrifood chains and modernization) is bound to have a significant impact on rural poverty alleviation.

The same studies suggest that trade liberalization could double the wages of people who earn less than

two dollars a day, thereby reducing global poverty by roughly 16% (i.e., there would be 500 million fewer poor people).

However, although the outlook is promising, it appears unlikely that the countries of the hemisphere will meet the targets set at the World Food Summit, where they committed themselves to halving the number of undernourished people by 2015. By that year, the number of undernourished people will reach 582 million, although the final goal was to reduce it to 412 million people. Although the results achieved to date are not as good as expected, the time is right to speed up the application of strategies for reducing hunger.

Some of the assumptions on which the above statement is based are:

- The international community is increasingly convinced that hunger is an obstacle to development. Therefore, the eradication of hunger has been made an essential element of national, regional and hemispheric programs to combat poverty.
- Governments, civil society and other organizations have become more concerned with the issue and tried to reach agreement on many points that previously remained unresolved.
- There is much more wealth in the world today than ten years ago, the supply of food is growing rapidly and every day sees new developments that could increase production even further.

### *The sustainability of agriculture and the rural milieu*

The outlook for the use and conservation of natural resources and the environment is not encouraging. However, there have been many more positive examples of sustainable natural resource management in recent years, and this is a hopeful sign. The pressures on the principal actors have also increased as a result greater awareness of the environmental problem worldwide.

**Climate change:** This is one of the biggest concerns, since temperatures will rise over the next twenty years by roughly 0.2°C/decade (IPCC 2007).<sup>24</sup> Even if all greenhouses gases remain at 2000 levels, temperatures will rise by 0.1°C/decade.

The rise in temperatures will influence crop yields by shifting optimal crop growing zones, changing patterns of precipitation

(quantity and variability) and potential evapotranspiration, reducing winter storage of moisture in snow and glacier areas, shifting the habitats of crop pests and diseases, affecting crop yields through the effects of carbon dioxide and temperature, and reducing cropland through sea-level rise and vulnerability to flooding.

While the developed countries situated at middle (and especially) high latitudes could experience net gains, many developing tropical countries could face problems due to the change in the climate and the growing variability of precipitation.

The IPCC report on impact, adaptation and vulnerability to climate change suggests that there

could be the following asymmetrical impacts on agriculture:<sup>25</sup>

- “Crop productivity is projected to increase slightly at mid- to high latitudes for local mean temperature increases of up to 1-3°C depending on the crop, and then decrease beyond that in some regions.
- At lower latitudes, especially seasonally dry and tropical regions, crop productivity is projected to decrease for even small local temperature increases (1-2°C), which would increase risk of hunger.
- Globally, the potential for food production is projected to increase with increases in local average temperature over a range of 1-3°C, but above this, it is projected to decrease.

**Table 5**

*Predicted impacts of climate change in Latin America*

By mid-century, increases in temperature and associated decreases in soil water are projected to lead to gradual replacement of tropical forest by savanna in eastern Amazonia. Semi-arid vegetation will tend to be replaced by arid-land vegetation. There is a risk of significant biodiversity loss through species extinction in many areas of tropical Latin America.

In drier areas, climate change is expected to lead to salinisation and desertification of agricultural land. Productivity of some important crops is projected to decrease and livestock productivity to decline, with adverse consequences for food security. In temperate zones soybean yields are projected to increase.

Changes in precipitation patterns and the disappearance of glaciers are projected to significantly affect water availability for human consumption, agriculture and energy generation.

Source: IPCC, *Impacts, Adaptation and Vulnerability*, p.10

- Increases in the frequency of droughts and floods are projected to affect local crop production negatively, especially in subsistence sectors at low latitudes.”

The actions that agricultural producers will have to take to adapt will range from changes in planting times to the development of new, better-adapted cultivars. Furthermore, climate change will not only affect the food supply within countries but also have important distributive effects, especially in the developing countries located at low latitudes (tropics and sub-tropics). These, the most vulnerable countries, have the highest incidence of poverty and hunger.

**Water:** By 2030, irrigation water withdrawal in the developing countries will have increased by about 14% but there will still be a deficit, which means it will not be possible to irrigate all the area under cultivation. In Latin America, the availability of water will depend on the actions are taken to: i) reduce the friction among competing uses of water (domestic, agricultural, industrial and tourism); ii) reduce and/or reverse the degradation of watersheds; iii) institute policies on water use and regulatory frameworks; iv) decentralize water management; and,

v) involve civil society in decision-making.

***Situation with regard to the soil and desertification:*** Although desertification will continue to be a global problem, and it is estimated that it will actually threaten one third of the earth’s land surface, the need to conserve natural ecosystems and renew soils will encourage decision-makers and farmers to increase sustainable forest management. Some examples of the types of management that will undoubtedly be used are certified and technically managed forests, new forest plantations, the sustainable use of forest and payments for environmental services.

***Environmentally friendly production systems:*** Productive practices of this kind will increasingly become survival strategies in global markets, where competitiveness will depend on innovation. Governments will respond by promoting the design and implementation of policies that encourage clean technologies, rural amenities and the use of agricultural products for non-conventional uses, particularly bio-fuels. Furthermore, although at the global level countries will ratify a variety of multilateral environmental agreements, it will be necessary to speed up the implementation of actions and strengthen institutional capabilities if the objectives are to be achieved.

## *Governance in agriculture and the rural milieu*

As has already been explained, the aim of democratic governance is to achieve, simultaneously, economic growth based on the market, satisfactory levels of equity and social protection, and growing degrees of citizen participation in political decisions.

***Economic growth based on the market:*** The economic growth that LAC will experience over the next ten years (3.6% per year) will be due mainly to the success of its macroeconomic policies in attracting capital inflows (direct foreign investment) and to the participation of its producers in trade liberalization processes.

***Satisfactory levels of equity and social protection:*** Thanks to LAC's comparative advantages in regard to agroindustrial processes and the implementation of policies in support of AHFS, infrastructure and science and technology, most of the benefits of economic growth and trade liberalization will flow directly to farmers, provided they tap the region's natural wealth and integrate successfully into international markets. This is a great opportunity to reduce hunger, poverty and inequity, because these problems are most acute in the rural milieu.

Equity in the rural territories of LAC will improve not only thanks to greater participation in international agricultural markets, the creation of more value added and rising prices for agricultural products, but

also because producers will tap the major opportunities to produce fuel from crops and establish stronger links between the agricultural rural economy and the non-agricultural rural economy, through activities such as ecotourism, agro-tourism and environmental services.

***Citizen participation in political decisions:*** As has been the case in recent years, local organizations will be the principal promoters of the social demands of minorities (ethnic groups, women, young people and other excluded sectors). As a result, the latter's interests will be better represented in policy-making processes, as private-sector groups and civil society will be involved along with government bodies.

This will not only help all segments of society feel they have a say in public policies but also legitimate the implementation of those policies. Only in this way will it be possible to maintain the policy objectives in the long term. Within this process, consensus building and political and economic planning processes will increasingly take place at the local and regional levels.

Greater citizen participation of this kind could generate virtuous circles, since the implementation of more socially sensitive public policies would help achieve large social investments and eradicate corruption, which in turn would afford the poor more opportunities to take part.

# *Challenges for agriculture and rural life in the Americas*

## *Making agriculture more competitive*

Making agriculture in the Americas more competitive calls for actions across a wide range of areas:

First, the region must produce competitively, considering issues such as genetic diversity and environmental conservation and exploiting the advantages offered by market opening and the burgeoning demand for the food needed to sustain a global population that is growing and has more money to spend.

Producing competitively means speeding up technological change and innovation. To achieve this, it is essential that the countries:

- Rethink their research and innovation priorities and, as a result, their national and regional technological agendas. Those agendas should include actions not only to keep up with the evolution of markets and the opportunities they generate, but also to help reduce rural poverty and promote the conservation of natural resources.
- Incorporate the new technologies, especially biotechnology, but with their respective regulatory frameworks and risk analysis. The countries must ensure that the benefits of biotechnology

are enjoyed by both producers and consumers, and by both the creator and the owner of the technology.

- Improve their human capital and infrastructure, to take maximum advantage of technology and enhance its impact on the rural milieu and the conservation of natural resources.
- Create the institutional framework necessary for research and innovation and foster the political will to encourage actions in these areas.
- Supply the volumes required and market better-quality and safe food.
- Step up efforts aimed at integrating agriculture and the rural milieu into the paradigm of innovation, rather than the traditional paradigm of technology research and transfer.
- Implement national policies that taken into account not only the enhancement of technical and scientific capabilities at the country level, but also the -20

To produce competitively, the region also has to improve product quality. To achieve this, it is essential that the countries:



- Understand that traceability and the use of good agricultural practices have become important, because consumers are now demanding better-quality products.
  - Make AHFS a factor of success in the competitiveness of their agrifood chains. For example, to prevent diseases that could have a major negative economic and social impact, such as avian influenza and bovine spongiform encephalopathy.
  - Adapt AHFS services to actual national conditions and needs; build a new technological and institutional infrastructure to implement tools such as risk analysis; recognize areas that are free from, or have a low prevalence of, pests and diseases; and develop capabilities for preventing and managing emergencies.
  - Reach agreement on long-term agendas with the private sector institutions, organizations and actors that make up national AHFS systems, and promote cooperation efforts between the public and private sectors that will ensure safety and quality in national agrifood industries.
  - Achieve agricultural production that is economically, socially and environmentally sustainable.
  - Promote the entrepreneurial skills of rural producers, so they can perform better in international markets.
  - Contend with the domestic supports of some countries that can distort international prices and make them even more volatile.
  - Understand how agrifood chains operate. Their sphere of activity often transcends national borders and calls for coordinated, joint action by several countries.
  - Make sustainable and efficient use of the natural capital available where agriculture is carried out.
  - Integrate small producers into the market and modernize rural agriculture.
  - Consider the livestock sector. Policies usually focus on crops, overlooking the social and economic importance of the livestock sector.
  - Promote investment designed to improve infrastructure, information systems, the legal framework, the efficient logistics required for trade (customhouses, communications), the financial
- The countries also need policies in support of agriculture that make it possible to:

system and other aspects that help reduce the transaction costs of producers.

- Guarantee the conditions for market access.
- Enhance the management of the free trade agreements signed by countries in the region. Some important issues in this regard are:
  - The administration of tariff quotas, which is complex and can be politicized;
  - Technical smuggling, i.e., the misclassification of products, placing them in a category that pays a lower tariff;
  - The response to dumping;
  - The improvement of the performance of customhouses; and,
  - The promotion of exports, because signing treaties does not guarantee they will increase. Policies to stimulate exports must be devised and implemented.

Finally, the countries must enhance the capabilities of their most important resource: their peoples. To accomplish this, they need to:

- Implement strategies that give vulnerable groups more access

to the different levels of the education system.

- Improve curricula, ensuring that they are more geared to the needs of those who live and work in the agricultural sector.
- Encourage and evaluate educational innovations, in order to identify good teaching and administrative practices and implement new strategies in the classroom.
- Educate people for sustainable development.
- Take better advantage of technology as an educational tool.
- Promote the quality and relevance of vocational and higher agricultural education in order to meet the needs of the countries.
- Ensure that the education given matches the needs of companies that could offer employment.
- Develop a business vision among students, so that upon graduating they are equipped to set up their own agricultural production enterprises.
- Strengthen dialogue and integration, to promote the sharing of information, knowledge and ideas.

## *Making agriculture and rural development more equitable*

More and more people are realizing that economic growth and efficient markets are not enough to reduce poverty, and that corrective interventions are needed. This calls for renewed efforts to ensure that the rural economy benefits from globalization and the development process, and that the rate at which rural poverty was reduced during the first half of this decade is maintained.

Meeting this challenge will require a sustained agenda of actions and corrective interventions in the following areas:

- Design appropriate policies and strategies targeted at the most vulnerable groups in the rural economy.
- Educate and train people, to enhance the expertise, skills and abilities that excluded groups need to become involved and participate effectively in agricultural and rural markets.
- Strengthen civil society organizations and do more to promote greater interaction among the actors in food chains, to generate common agendas and improve their negotiating capabilities and ability to defend their interests.

- Modernize and expand agricultural services to raise productivity.
- Develop the institutional capabilities of agricultural and rural organizations, to make them more efficient and effective, and equip them to participate in joint public-private actions.
- Promote investments in the rural economy.

To reduce rural poverty and generate employment, a set of policies is also needed to promote rural prosperity, comprising four types of complementary policies, which will not have the desired effect if implemented separately:

- i. Policies targeted at agricultural production-trade chains, to increase their capacity to generate employment and income, promote the development of agribusinesses and foster greater inclusion of rural dwellers.
- ii. Policies targeted at rural territories, to achieve systemic competitiveness and lower transaction costs, and improve the generation of social income.
- iii. Policies to promote institutional innovation, designed to

create an enabling environment for the participatory and inclusive management of policies for chains and territories.

iv. Policies aimed at creating and developing strategic capabilities for rural development, especially those needed to implement effectively the policies proposed for chains and territories.

It is also essential that the countries improve the policies that guarantee food safety, which should include actions intended to:

- Ensure access to food.
- Make agricultural and rural development the linchpin of the strategy to combat hunger and generate income and jobs for the poorest members of the population.
- Use technology to help reduce undernourishment.
- Ensure that the increase in agrifood trade helps reduce hunger and mitigate poverty.

### *Making the transition to a more sustainable paradigm*

National economic and social development must be sustainable over the long term and compatible with environmental conservation, the natural resource base and biodiversity. The development paradigm followed by humankind to date has not been sustainable.

The warning signs have multiplied, due to the negative effects of climate change and the degradation of natural resources, of which there is now more empirical and scientific evidence.

Farmers and rural dwellers depend on natural resources for their survival and wellbeing. Therefore, like the rest of humankind they need to change to a more sustainable paradigm of development. This calls for actions across many areas, both in agriculture and the rural

milieu, that will make the sustainable use of natural resources possible and help achieve the other strategic objectives of the AGRO 2003-2015 Plan: competitiveness, equity, food security and governance.

Adopting a more sustainable paradigm calls for new approaches to rural development and the use of natural resources. The countries need to:

- Review the trend in the changing use of soil and forest for agricultural activities. This entails actions designed to:
  - Tackle the problem of deforestation, which in LAC has increased rapidly since the 1970s.

- Ensure that in LAC there is a consistent connection between changing soil use and poverty alleviation, since in most regions productivity is not rising but soils are being degraded and water polluted by the use of inappropriate productive practices.
  - Reduce the negative impact of livestock activity, the cause of most deforestation, gas emissions, high water consumption and pollution.
  - Review land settlement policies based on the distribution of forested land among settlers.
  - Implement strategies to enhance the competitiveness of businesses based on the valuation and recognition of sound environmental management and the equity of rural actors.
  - Promote marketing strategies for environmental goods and services.
- Implement management tools that better estimate the value of ecosystem functions and promote the development of markets of ecosystem services.
  - Promote integrated, collaborative, intersectoral and participatory approaches to territorial management.
  - Foster arrangements involving payments for ecosystem functions and services, and generate more up-to-date information about such services.
  - Promote integrated land management with a sustainable development approach, as a key tool for promoting development and competitiveness.
  - Implement suitable risk management processes.

The role of the different actors in the rural milieu also needs to be strengthened. This requires actions designed to:

- Promote the development of local capabilities and the creation of mechanisms (e.g., consensus-building forums) and procedures that permit communities to administer or manage territories and natural resources together.

The countries also need to value ecosystem functions and services, for which integrated landscape management is essential. This calls for efforts to:

- Reverse desertification processes.

- Promote private conservation initiatives that complement government efforts.
  - Document and disseminate successful experiences.
  - Develop market tools (e.g., forest certification) to promote better management practices and fairer benefits for the owners of the resources.
  - Strengthen the design of policies that provide greater incentives for ecosystem management and discourage illegal practices (e.g., the marketing of forest products).
  - Promote financing strategies that will equip local governments with the technical capabilities they need to plan and manage the use of natural resources in an integrated way.
  - Promote the integration of efforts around common objectives in multinational areas (along the lines of the Mesoamerican Biological Corridor).<sup>26</sup>
- Finally, the countries must tackle the challenges of global change, which means rethinking their priorities and approaches and calls for:
- Governments and local actors to assume their responsibilities with regard to the control of emissions;
  - Analyses of the opportunities and risks associated with climate change for agricultural production systems;<sup>27</sup>
  - Information and analysis regarding the challenges posed by the generation of emissions by agricultural activities, livestock, deforestation and the practice of slash and burn;
  - An evaluation of the policies and incentives for bio-fuel production, taking into account both their positive effects (e.g., the reduction of greenhouse gases, the creation of employment in rural areas and the diversification of the energy matrix) and their possible negative effects (such as deforestation, the substitution of crops grown for food or other purposes and the increased consumption of water and other types of energy); and,
  - An evaluation of the risks that global change poses to the environmental functions of ecosystems that guarantee the water cycle and that water is available for essential human activities.

## *Improving governance in agricultural and rural development*

In general, to strengthen governance in rural territories the countries need to:

- Bolster the market as an instrument that permits the growth of the agricultural and non-agricultural economy.
- Increase the capabilities of agroindustrial producers (and family farmers) and the opportunities open to them, so they integrate better into international markets and can obtain more benefits from trade and the emergence of new market niches.
- Improve the distribution of the benefits within agrifood chains.
- Increase the participation of the citizenry in both the formulation and implementation of public policies.

However, one of the main variables that has undermined efforts to strike the right balance among the State, the market and civil society in rural territories has been the limited amount of investments made by the State and private and financial entities in rural areas and the low rate of return on those investments. Agriculture and rural territories receive fewer resources than most other sectors of the economy, and the situation is compounded by

the very low rate of return on the resources invested. Therefore, the most important actions that the countries need to take are as follows:

- Increase public spending in rural areas, which involves:
  - Promoting systems for providing follow-up and evaluating public spending, to improve the management of public spending in rural areas and its rate of return;'
  - Promoting the idea that public spending in the agricultural and rural sector should be consistent with its true relative importance in domestic economies; and,
  - Ensuring that the distribution of public spending is governed by efficiency parameters that encourage the development of natural, physical, financial, human, social, political and institutional assets. Only then will such spending help reduce the number of rural poor and give them a bigger share of the benefits of economic growth.
- Increase financing in rural areas:
  - Governments, private financial bodies and multilateral funding agencies must work together to

develop alternate financing mechanisms that combine access (agricultural producers meet the requirements) with cheap resources (low interest rates).

- The new instruments developed must not only be attractive for investors and lenders, but also adjusted to the conditions of producers/merchants, whose only collateral in many cases is their cash flows, inventories and limited liquid assets.
- Innovative financial arrangements must be

developed and tailored to specific agricultural chains, sectors and products.

- The new instruments created should consider, as means of securing funding, the issuance of securities that can be negotiated via public bidding process or private partnership or loan contracts, to protect investors if the funds are mismanaged by the executor of the agricultural project, or from potential bankruptcy and the loss of assets.



# *Notes and bibliography*

- <sup>1</sup> This is the executive summary of a longer document, which is available at <http://www.iica.int/documentos>
- <sup>2</sup> Studies conducted by IICA point up the degree to which official statistics underestimate the contribution and importance of agriculture and rural areas, because those statistics focus exclusively on the primary phase of production. IICA studies suggest that, when agriculture is viewed in a more holistic way, its true contribution becomes much greater. Studies by the World Bank and the ILO, and in certain countries, have come to the same conclusion. For more information, see: IICA (2004), *Más que alimentos en la mesa: la real contribución de la agricultura a la economía*. San Jose, Costa Rica; Arias, J., Trejos, R. and Vallejo, S. (2006). *Más que alimentos en la mesa: la real contribución de la agricultura del Ecuador*. IICA, Quito; Ferranti et al. (2005). *Más allá de la ciudad*. World Bank, Washington D.C.; ILO (2005). *World Employment Report 2004-2005*. Geneva.
- <sup>3</sup> Bahamas, Barbados, Dominica, Grenada, Guyana, Jamaica, Saint Vincent and the Grenadines, Saint Lucia and Trinidad & Tobago.
- <sup>4</sup> Includes countries that are not members of the European Union (EU-25).
- <sup>5</sup> The indicator of revealed comparative advantage (RCA) is used to gauge the competitiveness of agricultural trade. It calculates the comparative advantage indirectly, based on trade flows. This is done by assuming the existence of a relationship between the comparative advantage and the pattern of international trade flows (if a country exports a product to a specific market, it is because it has a comparative advantage in regard to that product; if it imports it, it has a comparative disadvantage). For more information about the indicator, see Arias and Segura (2004), *Índice de ventaja comparativa revelada: Un índice del desempeño y de la competitividad productiva-comercial de un país*. IICA.

- <sup>6</sup> Projections by the Food and Agricultural Policy Research Institute (FAPRI) of Iowa State University).
- <sup>7</sup> See European Commission “MAP Monitoring Agri-trade Policy,” No. 01-07, May 2007.
- <sup>8</sup> Ídem.
- <sup>9</sup> According to session #74 of May 2006 of the OIE.
- <sup>10</sup> News archive. Available at [www.ecampo.com](http://www.ecampo.com). Accessed on 2 June 2005.
- <sup>11</sup> Vacarezza, L., 2002. Argentina volverá a exportar carne vacuna a Europa. Published by Mercados ganaderos de SAGyPA. Available at [www.mecon.sagypa.gov.ar](http://www.mecon.sagypa.gov.ar). Accessed on 6 June 2005.
- <sup>12</sup> The definitions of poverty and indigence are the same ones used by ECLAC in its annual publication “Social Panoramas of Latin America” (for example, ECLAC 2004). The data are obtained by means of household surveys. The terms “indigence” and “extreme poverty” are synonyms, and are used to describe a situation in which a family does not have sufficient income to purchase a basic food basket.
- <sup>13</sup> De Ferranti et. al., 2003. Inequality in Latin America and the Caribbean: Breaking with History? World Bank.
- <sup>14</sup> ECLAC. 2006. Social Panorama of Latin America. Santiago, Chile.
- <sup>15</sup> For an event to be classified as a “disaster,” it must meet at least one of the following criteria: 10 or more people reported killed, 100 people reported affected, declaration of a state of emergency, and a call for international assistance (<http://www.em-dat.ed>).
- <sup>16</sup> As proposed at the seminar “Education for the Rural Population in Latin America: Food and Education for All,” held by FAO, IPE and OREALC, Santiago, Chile, 2005.
- 6** Projections by the Food and Agricultural Policy Research Institute (FAPRI) of Iowa State University).

- 7 See European Commission “MAP Monitoring Agri-trade Policy,” No. 01-07, May 2007.
- 8 Idem.
- 9 According to session #74 of May 2006 of the OIE.
- 10 News archive. Available at [www.ecampo.com](http://www.ecampo.com). Accessed on 2 June 2005.
- 11 Vacarezza, L., 2002. Argentina volverá a exportar carne vacuna a Europa. Published by Mercados ganaderos de SAGyPA. Available at [www.mecon.sagypa.gov.ar](http://www.mecon.sagypa.gov.ar). Accessed on 6 June 2005.
- 12 The definitions of poverty and indigence are the same ones used by ECLAC in its annual publication “Social Panoramas of Latin America” (for example, ECLAC 2004). The data are obtained by means of household surveys. The terms “indigence” and “extreme poverty” are synonyms, and are used to describe a situation in which a family does not have sufficient income to purchase a basic food basket.
- 13 De Ferranti et. al., 2003. Inequality in Latin America and the Caribbean: Breaking with History? World Bank.
- 14 ECLAC. 2006. Social Panorama of Latin America. Santiago, Chile.
- 15 For an event to be classified as a “disaster,” it must meet at least one of the following criteria: 10 or more people reported killed, 100 people reported affected, declaration of a state of emergency, and a call for international assistance (<http://www.em-dat.net/>).
- 16 As proposed at the seminar “Education for the Rural Population in Latin America: Food and Education for All,” held by FAO, IPE and OREALC, Santiago, Chile, 2005.
- 17 According to the Millennium Ecosystem Assessment, some 60% of the ecosystem services assessed (15 of 24) are being degraded or used in an unsustainable manner.

- <sup>18</sup> For example, the Regulatory Framework for Biotechnology and the National Law for the Recovery of the Sheep Sector (Argentina); the Modernization Program for the Fleet of Tractors, Related Implements and Harvesters, Awards for the Improvement of Products, and Instruments for Financing Agribusinesses (Brazil); Bonuses for Forestation and Recovery of Degraded Soils, the System of Incentives for the Recovery of Degraded Soils, the Agricultural Insurance and Agricultural Insurance Subsidy Program, the Associative Development Projects, and the creation of the Fund to Promote Forestry Exports (Chile); the Soil Conservation Project and the Sustainable Natural Resource Management Project (Paraguay); the Fund to Finance and Restructure the Rice Sector, the Fund to Finance the Dairy Sector, and the Forestry Development Policy (Uruguay).
- <sup>19</sup> In the full document, there is an analysis of the Agricultural Orientation Index (AOI), which reflects the extent to which State spending on agriculture reflects the importance of the sector in the national economy (AOI = 1 means that the country is attaching to spending on agriculture the same importance this sector has in the national economy). It is estimated to have been around 0.70 in LAC between 1996-2001.
- <sup>20</sup> Kjöllérström, M. (2004) *Competitividad del sector agrícola y pobreza rural: el papel del gasto público* and *América Latina*. Productive Development Series No. 155. Economic Commission for Latin America and the Caribbean (ECLAC), Santiago.
- <sup>21</sup> 21 FAO. 2007. Summary of the Conference “Financiamiento de las Cadenas Agrícolas de Valor.” Academia de Centroamérica. San Jose, Costa Rica
- <sup>22</sup> INTA. Argentina 2002. Technical Publication 92. Consulted in June 2007, [http://www.rafaela.inta.gov.ar/publicaciones/misc\\_92\\_10.htm](http://www.rafaela.inta.gov.ar/publicaciones/misc_92_10.htm). Mayo
- <sup>23</sup> Cline, William R. 2007. “The Doha Round, Agriculture, and the Developing Countries,” Center for Global Development and Peterson Institute for International Economics. Paper presented in Outlook USDA, 2007.

- <sup>24</sup> World Meteorological Organization and United Nations Environment Programme. 2007. Report of the Intergovernmental Panel on Climate Change (IPCC).
- <sup>25</sup> IPCC. Impacts, Adaptation and Vulnerability, p. 6.
- <sup>26</sup> Multinational initiative for the conservation of natural resources, promoted by the Central American Commission on Environment and Development (CCAD).
- <sup>27</sup> The expected rise in temperatures will influence crop yields by shifting optimal crop growing zones and altering the habitats of economically important pests and diseases. It may also change the areas where individual crops or single-crop farming currently perform better due to certain climatic conditions, and result in the loss of production.