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# Food Security in the Americas: The Need for a New Development Model

**IICA**



Inter-American Institute for Cooperation on Agriculture

**Food Security in the Americas:**  
**The Need for a New  
Development Model**

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

Editorial coordination: Federico Sancho.

Mechanical editing: Olga Patricia Arce.

Layout: Karla Cruz M.

Cover design: Karla Cruz M.

Printed: IICA Headquarters.

Brathwaite, Chelston W. D.

Food security in the Americas: the need for a new development model / Chelston W. D. Brathwaite – San José, C.R.: IICA, 2009.

42 p.; 21.6 x 21.6 cm.

ISBN13: 978-92-9248-090-5

Published also in Spanish

1. Food security 2. Agriculture 3. Agricultural development 4. Policies 5. Latin America 6. Caribbean

I. IICA II. Title

AGRIS

E10

DEWEY

338.19

San Jose, Costa Rica

2009

*Printed at the IICA Print Shop  
IICA Headquarters, San Jose, Costa Rica  
Press Run: 500 copies*

## Table of contents

■ Introduction	5
■ Some responses at the international level	8
■ The vision of IICA and its response to the needs of our member states	9
■ Moving forward: What are the responses and challenges at the country level?	12
■ A new model for development	17
a. State policies that support a multidimensional, multisectoral approach to agriculture and rural life	
b. Increased investment in research, innovation, and technology transfer	
c. A new curriculum for agricultural education	
d. Institutional Reform of Ministries of Agriculture	
e. A new strategy of consumption and nutrition	
- The expected results from a new model for development	37
■ Final remarks	38
■ References	42







## Introduction

**A**n unstable global economic situation characterizes the beginning of 2009. Its ultimate effects cannot be anticipated and are still being analyzed extensively by experts and national and international organizations. The financial crisis, the origin of which is exogenous to Latin America and the Caribbean, has already monopolized discussions about the future of global economic development and suggested immediate measures that should be implemented to mitigate its effects.

On a different scale, and prior to the upheaval in the financial markets, international discussions centered for a few months on the so-called food crisis, which triggered an alert as regards the need to intensify the analysis of the role that agriculture plays in development and food security.

A clear illustration of the crisis is the fact that the cost of wheat has increased

by 130 percent, the cost of rice by 74 percent, the cost of soybeans by 87%, and the cost of corn by 53%. In less than 24 months, world food prices have escalated to unprecedented levels and there have been food riots in at least 20 countries of the world as a result of the scarcity and lack of access to food. Today, prices are extremely volatile – in some cases the drastic increases have been followed by a decrease in prices; nevertheless, they are higher than the average prices for the period 2000-2005.

In this scenario, it is important to analyze the possible effects of rising and falling prices on domestic markets and at the level of the distribution of profits and losses resulting from changes within the different agrifood chains. (Paz and Benavides, 2008)

In a recent address to the Organization of American States (OAS), the Executive Director of the World Food Program, Josette Sheeran, indicated that:

“Today we find ourselves at a critical crossroads, with hunger again knocking on the door of the Americas. Soaring food prices threaten to exacerbate the circumstances of the already vulnerable, and to turn back the clock on the progress made by those individuals and families who have achieved food security.

This silent tsunami, travelling quietly around the globe hits those who are most vulnerable hardest. It knows no borders. It has created perhaps the first globalized humanitarian crisis, adding an additional 130 million people to the ranks of the urgently hungry who were not there just one year ago.” (OAS, 2008)

*The ECLAC suggested that the 27 million individuals who left poverty during this period may return to poverty, thus making it impossible to reach the Millennium Development Goals (MDGs) in many of our countries.*

Furthermore, the Economic Commission for Latin America and the Caribbean (ECLAC) has indicated that the five years of positive economic growth enjoyed by Latin America and the Caribbean between 2002 and 2007 may be undermined by the current financial crisis. It suggested that the 27 million individuals who left poverty during this period may return to poverty, thus making it impossible to reach the Millennium Development Goals (MDGs) in many of our countries. The World Food Program now states that, instead of reducing poverty by 50% in 2015, as proposed by the MDGs, an additional 100 million people will return to poverty.

Food insecurity and poverty, and the MDGs demand solutions to improve the income of thousands of families and to ensure that the most vulnerable groups enjoy adequate financial conditions that do not jeopardize their food situation.

The current situation of the markets and the role of the State, the causes and effects of the crisis, and poverty and

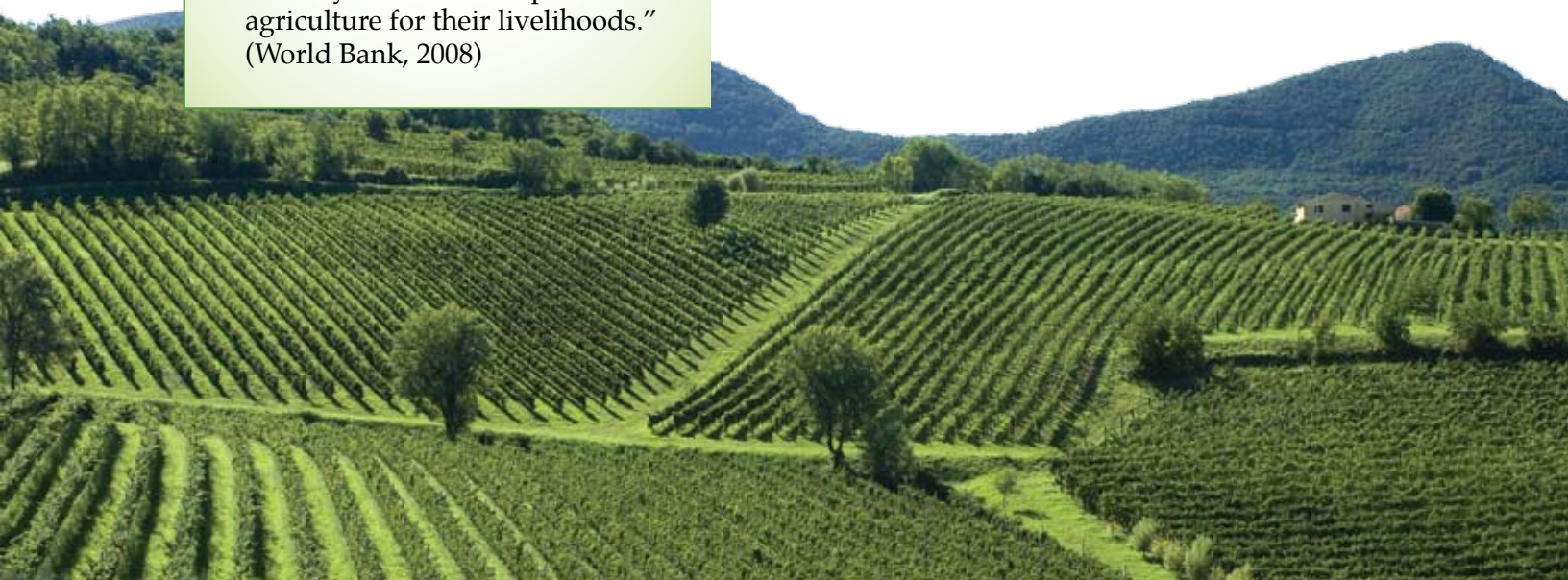
food insecurity are complex phenomena and cannot be tackled or resolved with the solutions used in the past.

As stated by the World Bank in its World Development Report 2008:

“In the 21<sup>st</sup> century, agriculture continues to be a fundamental instrument for sustainable development and poverty reduction. Three of every four poor people in developing countries live in rural areas – 2.1 billion living on less than \$2 a day and 880 million on less than \$1 a day – and most depend on agriculture for their livelihoods.”  
(World Bank, 2008)

It is clear that agriculture alone will not be enough to reduce poverty massively; however, based on the findings of the World Bank, it has proved to be a uniquely powerful tool for this task.

Consequently, IICA wishes to use these developments to continue and intensify discussions about the need for a new model of development centered on agriculture that ensures food security for our hemisphere, both now and in the future.





## Some responses at the international level

In 2008, the Food and Agriculture Organization (FAO) held a high-level conference on food security in Rome during which a number of short-, medium- and long-term strategies for resolving the problem were discussed. Recently, a meeting<sup>1</sup>, hosted and organized by the Spanish Government and co-sponsored by the United Nations in Spain, not only reaffirmed all those strategies, but agreed that:

“...States have a primary responsibility to make their best efforts to respect, ensure, fulfill and promote the right to have regular and permanent access to adequate food... Participants were deeply concerned by the unacceptable global food security situation that affects over 960 million undernourished people... Participants stressed that the social and economic development of rural areas must

become a primary policy objective, as the provision of food and agriculture fulfils a key function that must be consolidated and enhanced...” (Final Statement of the Madrid High-Level Meeting on Food Security for All, 2009)

The International Food Policy Research Institute (IFPRI), which has indicated that there is a strong correlation between food price levels and oil prices, has suggested a set of policy actions to address the food security problem in the world, including plans to:

- a. Expand emergency responses and humanitarian assistance to food-insecure people and strengthen social protection;
- b. Undertake fast-impact food production programs in key areas;

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1 Food Security for All. High-Level Meeting. Madrid, Spain.

*The current situation of the markets and the role of the State, the causes and effects of the crisis, and poverty and food insecurity are complex phenomena and cannot be tackled or resolved with the solutions used in the past.*

- c. Eliminate agricultural export bans and export restrictions and complete the Doha Round of the World Trade Organization (WTO) negotiations;
- d. Change biofuel policies, and
- e. Stabilize markets in order to limit speculation. (IFPRI, 2008)

## The vision of IICA and its response to the needs of our member states

Under the IICA Medium Term Plan (MTP 2006-2010), food security<sup>2</sup> is defined as the existence of the necessary conditions for human beings to have physical and financial access, in socially acceptable ways, to food that is safe, nutritious and in keeping with their cultural preferences, so as to meet their dietary needs in order to live productive and healthy lives. Food security is considered one of the three pillars of the Institute's vision, conscious as we are that food is a basic right of every citizen of the world and that our democracies are not sustainable if a large percentage of

2 Food security conditions, according to IICA, are: **1) The physical availability of food** in sufficient quantities and of sufficient quality produced in or imported into the country (including food aid); **2) Access of all people to food** because they have the financial and other resources needed to acquire sufficient nutritious and safe food; **3) Reaching a level of nutritional well-being** where all physiological needs are met, thanks to an adequate diet, availability of and access to clean water, sanitation and health care (importance of non-food inputs); and, **4) Stable access** to foods at all times, without the risk of running out of food as a result of unexpected political, economic or climatic crises or cyclical events (seasonal food insecurity). Includes both availability and access. (IICA, 2008)

our population does not have access to the basic necessities of life, such as food, shelter, health care and education.

In 2002, at the beginning of my mandate as Director General, we encountered an environment in which food security and agricultural development were not high on the list of priorities on the agenda of

many of our countries or the multilateral development banks. Today, due to the volatility of food markets, the situation is different and several of our Member States have incorporated food security into their development agendas.

In such circumstances, one may be tempted to ask the question: Are we





ready, as a cooperation institution, to assist our Member States in this critical moment in history where food insecurity has the potential to create social and political turbulence in several of our countries? The answer to the question must be a resounding yes.

Over the last six years, IICA has worked steadfastly to be prepared to meet the challenges of the 21<sup>st</sup> Century by implementing an internal reform process. Our MTP 2006-2010 defines quite clearly the policies and strategies that must be pursued for the development of a modern agricultural sector in the hemisphere.

Together with our Member States, a strategic framework for the sustainable development of agriculture and the rural milieu in the hemisphere was developed, the *AGRO 2003-2015 Agro Plan for Agriculture and Rural Life in the Americas*, which recognizes the multidimensional, multisectoral role of agriculture and which, if implemented, will make a significant contribution to the integral development of our countries.

In keeping with our vision, IICA has reinforced its actions to promote food security in our Member States by undertaking the following:

- Research and analysis of the evolution of prices and markets;
- Expert forums;
- Inclusion of the issue in important international meetings;
- Formation of a working group on food security;
- Inclusion and discussion of food security in Cabinet and Technical Committee meetings within the Institute.

Three courses of action were defined and agreed on in order to focus IICA's work: (i) institutional innovation for food production and diversification;

(ii) strengthening small- and medium-scale farmers and their links to markets, and (iii) support for policy design and provision of up-to-date information about the food crisis. (IICA, 2008)

As an example of our actions, during 2008, a select group of experts from key international organizations, the academic community and the private sector gathered at IICA for an international seminar on the food security situation. They concluded that the current, so-called “food crisis” must be seen as an opportunity for the agricultural and rural sectors of the countries of the Americas. However, the historical limitations of the sector must be surmounted, international food price increases must be passed on to the farmers, and long-term policies must be designed as a response to national development plans.

Our Institute has recently published an article on the Institute’s response to rising food prices on its website and in its Technical Journal<sup>3</sup> where it holds that

agriculture and food security must be given high priority on the development agenda of our countries.

*The current, so-called “food crisis” must be seen as an opportunity for the agricultural and rural sectors of the countries of the Americas. However, the historical limitations of the sector must be surmounted...*

## Moving forward: What are the responses and challenges at the country level?

**B**ased on research carried out by ECLAC, the measures taken by the countries are mostly intended to improve food availability and access. Scientific research, technical assistance, and technical information

3 See COMUNIICA, May-August, 2008 and [www.iica.int](http://www.iica.int)

programs have been proposed in many countries, but most proposals have yet to be implemented.

Actions taken so far by our countries according to ECLAC, 2008:

- Reduction of import taxes and trade barriers;
- Food distribution programs;
- Price controls;
- Conditioned income transfers;
- Subsidies to inputs and input distribution;
- Financing of production;
- Public-private agreements.

In a few countries, there has been a reduction of consumer and production taxes; government purchases from small farmers; strengthening of the institutional

framework to enhance competition and protect consumers; strengthening of commercial relations and value chains (to improve access); public information and promotional campaigns (to improve utilization and access); strengthening of productive infrastructure (longer-term); strengthening of agricultural insurance (longer-term) and salary adjustments (to enhance access).

Many pages have been written and numerous recommendations have been made. However, we should mention four factors that are critical for moving forward in this new era of global development:

1. The root cause of the problem is that, in many countries, **we have not given agricultural development or food security the necessary priority**, in either thought, word or action.
2. **Poverty is still a persistent problem** in the Americas. A recent FAO report makes three important statements:
  - “The Region’s food production exceeds by 30% the quantities of



protein and calories needed to satisfy the energy requirements of its population. Yet, over 52 million people (10% of the population) do not have appropriate access to food and 9 million children suffer from chronic malnutrition.”

- “The Region has tripled its food production since the 1970s and is a net food exporter. During the period 2000-2006, its food imports increased at an average 7% per annum, while its food exports increased at an average of 12% per annum. In the Region, it is not a question of lack of food, but the result of inadequate access to food, which is related to the low income levels of its population and persistent poverty.”
- “The main challenge facing the Region is therefore to overcome the enormous inequality in income distribution that exists and that has remained practically the same for 55 years. Between

1950 and 1990, the Gini coefficient, which measures inequality, has remained virtually unchanged, averaging 0.505 in 1950 and 0.507 in 1990. The same condition of unchanged average regional indicators of inequality in income distribution existed during the period 1989 to 2005.” (FAO, 2008)

3. **A new set of global forces will impact food security**, including: increased demand for food by emerging economies; devastating hurricanes and droughts due to climate change; declining agricultural productivity, and the increased cost of energy.
4. **The challenges we face are not of a short-term nature** and, therefore, will not be solved by short-term solutions.

Other relevant factors include: a population growth of 1.5% a year, which suggests that the total population could reach 9.2 billion by

2050; expansion of consumer markets in countries such as China, and in South East Asia and Latin America; farmers are now using 70% of the Earth's available fresh water, and the lack of good farmland, some of which is extremely deteriorated. In 40 years' time, the demand for food will have increased by 110% with even less resources available for agriculture. (ACIAR, 2009)

Faced with this situation, there are those who call for a new green revolution. This term was used in the 1960s to explain the increase in agricultural output resulting from genetic improvements, and the use of high-yield varieties, irrigation, fertilizers, pesticides and mechanization. The initiative reduced hunger and food insecurity in many countries and has been credited with saving over a billion lives. Moreover, it earned Norman Borlaug the Nobel Peace Prize in 1970<sup>4</sup>.

*There can be no doubt that education, entrepreneurship, research, biotechnology and technological innovation will be critical elements in our search for solutions to the current food crisis.*

Nevertheless, those who advocate a new green revolution should recall the negative aspects of the last green revolution, including the exclusion of small-scale producers, dependence on pesticides and fertilizers, lack of attention to nutritional factors, and many environmental problems related to pollution of land and sources of water.

There can be no doubt that education, entrepreneurship, research, biotechnology and technological innovation will be critical elements in our search for solutions to the current food crisis.

4 He was awarded the Nobel Peace Prize in recognition of his contribution to world peace by increasing food supplies.





## A new model for development

It is unacceptable that, 50 years after the Universal Declaration of Human Rights and several years after the adoption of the Vienna Convention, at least 880 million people in the world still do not enjoy one of the basic human rights, the right to food. Moreover, since food is a basic right throughout the world, the food and agriculture sector must be a central component of each country's development agenda and must be given the appropriate resources for its development and sustainability. The sector can no longer be marginal to the development process.

As a society, we have developed appropriate infrastructure to guarantee exercise of all the basic rights and fulfill the needs of society: public safety, health and education. However, in the case of food, we have failed to make a similar effort and have left food production to the market forces.

Instead of a new green revolution, we need a new development model,

a model that recognizes the key role that multidimensional agriculture and the rural economy play in integral development owing to their contribution to food security, energy security, water supply, employment, environmental conservation, social stability and freedom from social unrest.

Concrete global actions must be taken to combat environmental degradation, global climate change, depletion of the ozone layer, loss of biodiversity, deforestation and other threats to our environment and our natural resources. Current systems of production need environmental policies that promote stewardship of and care for the environment.

*We need a new development model, that recognizes the key role that multidimensional agriculture and the rural economy play in integral development owing to their contribution to food security, energy security, water supply, employment, environmental conservation, social stability and freedom from social unrest.*

Al Gore, winner of the 2007 Nobel Peace Prize, stated the following in his acceptance speech:

"So today, we dumped another 70 million tons of global-warming pollution into the thin shell of atmosphere surrounding our planet, as if it were an open sewer. And tomorrow, we will dump a slightly larger amount, with the cumulative concentrations now trapping more and more heat from the sun."

"In the last few months, it has been harder and harder to misinterpret the signs that our world is spinning out of kilter. Major cities in North and South America, Asia and Australia are nearly out of water due to massive droughts and melting glaciers. Desperate farmers are losing their livelihoods. People in the frozen Arctic and on low-lying Pacific islands are planning evacuations of places they have long called home. Unprecedented wildfires have forced a half million people from their homes in one country and caused a national emergency that almost brought down the government in another. Climate refugees have migrated into

areas already inhabited by people with different cultures, religions, and traditions, increasing the potential for conflict. Stronger storms in the Pacific and Atlantic have threatened whole cities. Millions have been displaced by massive flooding in South Asia, Mexico, and 18 countries in Africa. As temperature extremes have increased, tens of thousands have lost their lives. We are recklessly burning and clearing our forests and driving more and more species into extinction. The very web of life on which we depend is being ripped and frayed." (Gore, 2007)

We also need to move forward in implementing the society of knowledge of the 21<sup>st</sup> Century, where science and technology are key engines of economic growth. But this requires a new paradigm which recognizes that our natural resources and the rural sector are key areas for investment and for the generation of wealth. The policies required for these developments are not agricultural policies alone, but an integrated series of State policies that acknowledge the intersectoral and multisectoral nature of development.







The time has come to re-assess the contribution made by the rural economies of our countries to integral development. This contribution involves the current and potential production of a sustainable supply of energy and nutritious food to minimize life-style illnesses; the preservation of forests to reduce the impact of climate change; and economic activities in the agricultural sector that can provide employment and help reduce poverty.

To build a sustainable society, therefore, we need a new development model that incorporates the social, economic, technological, environmental and political dimensions of development. The current food crisis clearly shows that humanity must change course and make better use of the planet's natural and knowledge resources.

The actions that are currently being taken by the governments of the hemisphere

*The current conditions of food insecurity and volatility of food prices provide an opportunity to review the global food situation and to develop appropriate strategies to ensure that we protect humanity from a similar situation in the future.*

are necessary and will undoubtedly help reduce the impact on the population, especially the most vulnerable groups affected by increases in food prices. Nevertheless, we see the need for a long-term strategy to avoid future food crises.

So what is this strategy? We believe that food security must become a central component of development planning and must be linked to agricultural development policies that are part of the national development goals. In other words, the agricultural development policy and issues related to food security cannot be left to sectoral management; they must be part of the national development policy.

The current conditions of food insecurity and volatility of food prices provide an

opportunity to review the global food situation and to develop appropriate strategies to ensure that we protect humanity from a similar situation in the future.

This new model should have five components:

- a. State policies that support a multidimensional, multisectoral approach towards agriculture and rural life.
- b. Strategies to increase investment in agricultural research, innovation, and technology transfer.
- c. A new curriculum for agricultural education that supports the multidimensional nature of agriculture.
- d. Institutional reform of ministries of agriculture.
- e. New policies on food consumption and nutrition.

All these initiatives must be supported by increasing the allocation of financial resources to agriculture and rural life, increasing international development assistance, and a new leadership dimension with a global and long-term vision.

**a. State policies that support a multidimensional, multisectoral approach to agriculture and rural life**

Our countries need a national food and agriculture policy that addresses the sector's multisectoral nature and its inter-sectoral linkages with the rest of the economy. This national policy should ensure that the four dimensions of the Agro Matrix (competitiveness, sustainability, equity and governance) are taken into consideration and emphasize that the food and agriculture sector, national food security, and national development are intimately linked. The Ministry of Agriculture should become a Ministry of Food and Agriculture and should not only be a ministry for food producers, but also a ministry for food consumers. Consequently, we consider

that what is needed in each country is a national food and agriculture policy that guarantees the nation's food supply, whether from local or imported sources. The assessment of how much local demand will be supplied by local production must be decided by each country based on its natural resources, and specific skills, culture and policies.

In Chile, the state rural development policy implemented since 1990 has made a major contribution to that country's success in reducing rural poverty and extreme poverty from 39.5% in 1990 to 20.1% today. According to a recent report by the Chilean Ministry of Agriculture, the main factors responsible for this success are:

- (i) Strong expansion of foreign markets as a result of trade agreements;
- (ii) Public investment in communications and the paving of secondary roads;
- (iii) High levels of public investment in irrigation, infrastructure, and credit facilities;

- (iv) Public investment in research and technology transfer;
- (v) Private investment in technology, processing infrastructure, and international marketing;
- (vi) The production of new crops, the development of new product categories, and access to new markets, especially in Asia;
- (vii) A sustained, systematic national policy to incorporate small-scale farm agriculture into development policy and to combat rural poverty.

Today, even China recognizes the need to incorporate the rural sector into the fast-growing wealth of the nation and has recently announced a number of policy

*The new food and agriculture sector will depend increasingly on the capability of competitive agribusinesses to market products that meet animal and plant health, food safety, and environmental regulations.*

measures to increase the allocation of public resources to the countryside in order to close the growing prosperity gap between the cities and the rural areas. Also, the Farm Bill in the United States and the “Zero Hunger” program in Brazil are examples of national agricultural development policies.

#### **b. Increased investment in research, innovation, and technology transfer**

The new food and agriculture sector will depend increasingly on the capability of competitive agribusinesses to market products that meet animal and plant health, food safety, and environmental regulations.

The key to the success of this new paradigm is technology. This concept, summarized in Figure 1, indicates that the new food and agriculture sector will be led by global trade that is based on agribusinesses and that generates value-added products that conform to agricultural health and food safety standards, while respecting the environment.





This is certainly the case for the agricultural sector in the Americas, although not all countries have the same level of technological development. In the past, most of the increase in production was due to an increase in cultivated areas, while productivity has been stagnant over

the last few years. Nevertheless, on average, almost 40% of all increases in food production in the Americas over the last four decades have been due to the use of modern technology, mainly improved seed varieties and agronomic information. Most countries have achieved substantial increases in

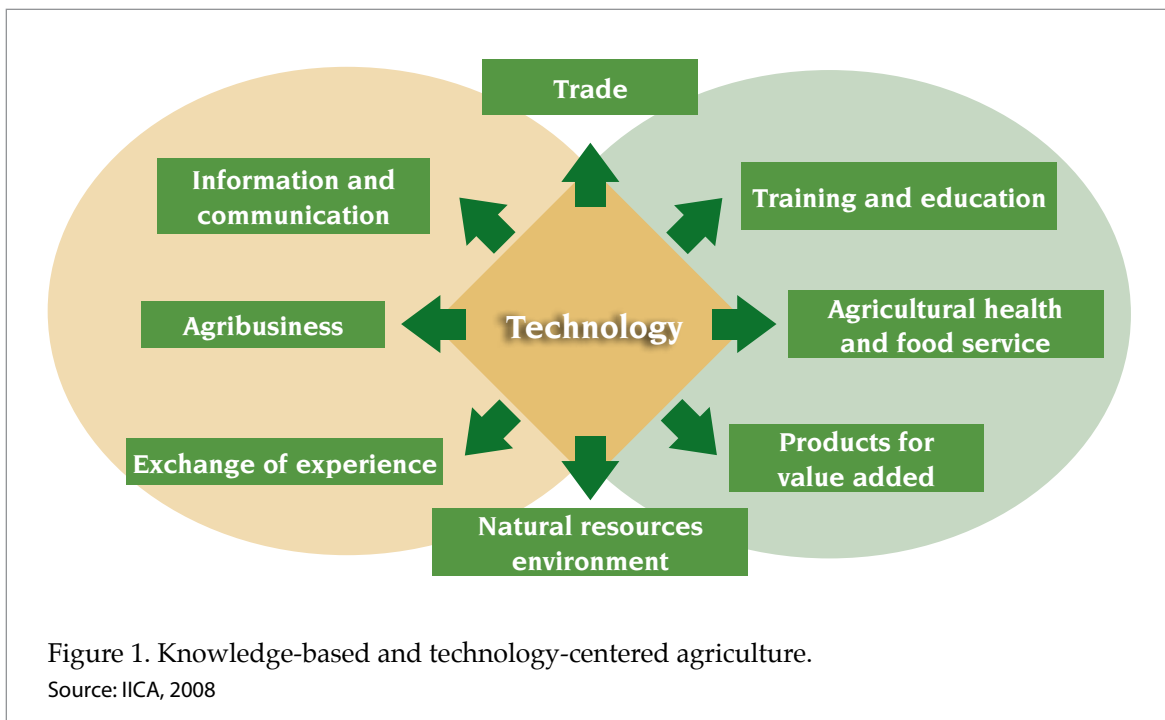


Figure 1. Knowledge-based and technology-centered agriculture.

Source: IICA, 2008

agricultural productivity of basic foods, including corn, wheat, potatoes, rice, beans, sunflowers, and soybeans in the Southern Cone.

The adoption of new technology has yielded significant economic benefits, as measured by the rates of return on investments in agricultural research. This has demonstrated that investment in agricultural research is good business.

The disparity in productivity of certain commodities in different countries is, in part<sup>5</sup>, a consequence of their unequal development of research and extension capabilities. Countries with greater relative development, such as the United States, Canada, Brazil, Mexico and Argentina, invest between 1.5% and 2.5%

*Investment in agricultural research is good business.*

of their agricultural gross product in agricultural research.

As indicated by IICA:

"...Brazil, Mexico, Argentina, Chile, Venezuela and Cuba account for 96% of the region's investment in science and technology and LAC's limited efforts to develop and incorporate new technologies are geared toward traditional products." (Trejos, 2007)

For the majority of the least developed countries of the region, however, this investment in public research on the average only reaches 0.4%. Nevertheless, countries such as Chile, Colombia, Uruguay and Costa Rica have been investing increasingly in improved technology for the food and agriculture sector. Recent data from scientific publications shows this trend for agriculture.

Research in biotechnology is a critical component of increased crop yields and agricultural productivity. However,

5 Some countries of the region have better conditions in terms of climate, soils, and water supply.



the reality is that developing countries are not investing in biotechnological research, which is one more reason for the widening gap between developed and developing countries.

Despite the efforts of agricultural research centers and other institutions, most of the biotechnological information is in the hands of the private sector, which may explain why the most significant advances in biotechnology relate to rice, maize, wheat and cotton. Yet the majority of the population in the south survives on sorghum, millet, yams, cassava, pigeon peas and other pulses. (Brathwaite, 2002)

**c. A new curriculum for agricultural education**

Education plays a vital role for the future. Educational institutions have a great responsibility to prepare for the future

*The reality is that developing countries are not investing in biotechnological research, which is one more reason for the widening gap between developed and developing countries.*



of our world by equipping the next generation with the skills and knowledge to manage the future. Knowledge- and information-based economies and interconnected networks require a solid foundation of education and training.

The region's educational establishments have been slow in adjusting their curricula to the new circumstances, which include: changing employment opportunities in agriculture; rapid scientific progress and technological change; increased awareness of environmental issues; increased awareness of gender issues and the role of women in agriculture; the need to include population issues in agricultural education; and the need for an interdisciplinary approach to agricultural education, research and extension, with emphasis on new areas such as trade negotiations, biotechnology, agroenergy, and agrotourism.

The approach to education as a whole needs to be re-examined. Current research suggests that what we need today in a first-degree level agricultural graduate is greater understanding of business

practices, the ability to communicate with diverse rural groups and to support these groups in collective problem solving, and the ability to assist small family farms advance from subsistence agriculture to commercial production. This requires a curriculum that uses practical examples to emphasize the holistic nature of the agricultural production process throughout the entire food chain and that exposes students to real life situations that are relevant to modernize the food and agriculture sector.

*What we need today in a first-degree level agricultural graduate is greater understanding of business practices...*

To this end, a new educational model is needed, most probably interwoven with the visions of all the agricultural education programs in each country, based traditionally on knowledge and theories with little practice. The national

educational systems should incorporate a more realistic vision that satisfies and ensures the well-being of future generations in the short and long term. This will require pedagogic and practical experiences from school to university based on a new paradigm that helps form a collective awareness of humanity between all the inhabitants of this planet. As H. Maturana has stated:

"What is needed is a new education plan that produces transformation and human development without excluding any individual from its influence..." (López *et al.* 2003: 16)<sup>6</sup>

Hence, the curricula should provide the incentive to form part of this new holistic awareness, where everyone has the possibility of improving his or her way of life without compromising the world's natural resources – not as individuals who are only trying to ensure their own survival – but rather going beyond this concept to achieve an economy for life, via production processes and

*The new curriculum must help unlock the talent and creativity of the youth of our nations so that they can contribute to finding innovative solutions to the complex problems facing our world.*

agribusinesses that guarantee food security and well-being for many others.

Agricultural education in the region must respond to the market's demand for graduates and must take national policies and strategies into account. The new curriculum must help unlock the talent and creativity of the youth of our nations so that they can contribute to finding innovative solutions to the complex problems facing our world. It must also provide an environment for collaborative efforts so that the new world of cooperation we want to build is inculcated in youth in the early stages of their development.

Students must also be taught that leading others begins with leadership of self. The

6 López Melero, M.; Maturana Romecín, H.; Pérez Gómez, A.; Santos Guerra, MA. 2003. *Conversando con Maturana de Educación*. Ediciones Aljibe, S.L. Málaga.

*The national educational systems should incorporate a more realistic vision that satisfies and ensures the well-being of future generations in the short and long term.*



basic principles of integrity, impartiality, professionalism, flexibility, loyalty, prudence, responsibility and respect for others as human beings must be addressed in the new curriculum.

#### **d. Institutional reform of ministries of agriculture**

Several institutional responsibilities, such as extension and research, which were once carried out by the Ministry of Agriculture, are now being undertaken by private-sector agencies and NGOs. This suggests the need to reform the Ministries of Agriculture to cope with the new multi-dimensional role of the sector.

The structural adjustment programs of the recent past have resulted in fewer budgetary resources being allocated to the Ministries of Agriculture of some of the countries in the hemisphere. However, the global scenario requires that the State play a key role in providing the regulatory framework for agriculture, together with a policy framework and support services

such as rural infrastructure, security of land tenure, and training, research and extension, all of which are necessary for the development of a competitive agricultural sector. Traditional private-sector and non-governmental organizations are increasingly involved in the provision of technical services to the sector, but the role of government in building new strategic partnerships with them is a critical one.

The reform of the Ministries of Agriculture must ensure that the new model promotes cooperation and closer ties between the State and civil society. This should be considered within the framework of strong government at the community level and a new role for the public sector, the private sector and international organizations in rural community development.

We are convinced that unless the role of the Ministries of Agriculture is redefined and agriculture's true contribution to national development is recognized, the true potential of the rural sector in economic development will not be realized.

#### **e. A new strategy of consumption and nutrition**

Traditionally, we have depended on the supply of wheat, corn, rice, potatoes and soya beans as the basis of our daily nutritional requirements. Of the 250,000 species of plants in the world, 90,000 of which are found in our hemisphere, we depend on these five as the pillars of our nutrition. Clearly, the time has come for us to exploit the nutritional value of our own tropical crops, such as cassava, sweet potatoes, bananas, yams, and many others, as a source of our daily nutritional requirements. Nutritional programs should take into consideration this biodiversity as a way to decrease the occurrence of obesity and malnutrition faced by some developed countries.

In addition, the lack of attention to other crops with the potential to feed humanity may result in their disappearance from the biodiversity of the world and, should a major catastrophe affect one of our five traditional crops, we will need that biodiversity. Let us not forget the potato famine in Ireland in the 18<sup>th</sup> century.



These five initiatives (a-e) must be supported by:

*i. Increased allocation of national resources to agriculture and rural life*

Over the last 25 years, the world has seen a decrease in attention to agriculture and its financing. Some development banks dismantled their agricultural divisions, the Governments of our countries invested less in technology and innovation, and we have dismantled our agricultural extension services. When reduced government expenditure became necessary during the period of structural adjustment, we reduced the size of the Ministries of Agriculture. The investment in the rural economy, where 40% of our population lives, is on average 6% of our national budgets.

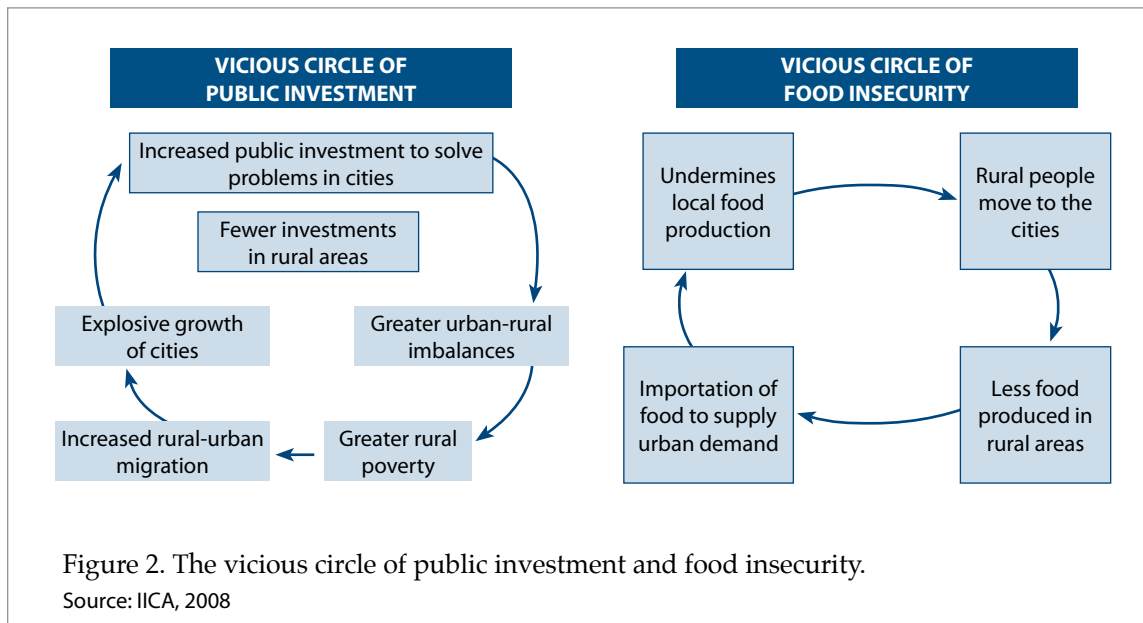
Past and even current development models have an anti-rural bias in which the recommended approach to modernizing the economy is based on industrialization and

privileged growth of urban areas. Some consequences of these models include:

- The concentration of the population in cities; their political importance results in greater public investments in services for urban areas.
- Greater inflow of private investment into urban areas as a result of the externalities from public investments.
- Continued inequality between urban and rural areas, despite economic reforms implemented in the mid-1980s and during the 1990s.
- A limited inflow of resources and improvements in infrastructure in rural areas due to inappropriate public policies on investment, trade, and taxes.
- A rise in violence and growing social and political insecurity in the urban economy resulting in an increased allocation from the national budget to solve the social problems of the cities.

*The increasing migration of the rural population from rural areas and the limited investment in the rural economy may result in less agricultural production, with the consequence that the Government then imports more food (normally cheap food) to satisfy urban demands, and this further undermines the rural sector's capacity to produce.*

- The continued competitive disadvantage of the rural sector, despite investments in areas with a great deal of potential.
- The continuing vicious circle of less public investment in rural areas and its effects on food security (see figure 2).



The increasing migration of the rural population from rural areas and the limited investment in the rural economy may result in less agricultural production, with the consequence that the Government then imports more food (normally cheap food) to satisfy urban demands, and this further undermines the rural sector's capacity to produce. The result is another vicious circle of food insecurity that needs to be re-examined to transform it into a virtuous circle so as to increase investment, reduce migration, improve opportunities in rural areas and in agriculture, and increase the production of food.

*ii. More international development assistance*

As mentioned, it has been reported that between 1985 and 2002, official development assistance (ODA) to agriculture declined by about 66% in real dollar terms<sup>7</sup>. Agriculture became marginalized in bilateral agencies and in development banks: (i) the World Bank

*Funding for agriculture has been increasing, and development banks are reverting to investing in agriculture and rural development, because they "have discovered that development without rural development is impossible."*

agricultural lending fell from 30% in 1980 to 7% in 2003. In 2002, only 3% of the loan portfolio of the Inter-American Development Bank was devoted to the food and agriculture sector in the Americas; (ii) FAO has recently reported that, although 40% of the population of Latin America and the Caribbean lives in rural areas, only 6.6% of public budgetary expenditure is devoted to agriculture and related rural activities; and (iii) the amount being invested in the rural economy in Latin America and the Caribbean declined from \$205 per capita between 1985 and 1990 to \$140 per capita between 1995 and 2001.

Recently, funding for agriculture has been increasing, and development banks are reverting to investing in agriculture and

<sup>7</sup> See Official Development Assistant to Agriculture Document. Paper written by Agriculture and Natural Resources Team of the UK. Department for International Development (DFID), 2004.







*The Minister of Agriculture of the 21<sup>st</sup> Century must be able to deal with issues of equity, the environment, health, trade, energy and the economy.*

rural development, because they “have discovered that development without rural development is impossible.” On this basis, the development banks and the international financial sector need to return to the agricultural sector and provide support to rural development in our countries.

*iii. A new leadership dimension  
- the Minister of Agriculture of the  
21<sup>st</sup> Century*

The new vision for agriculture, as presented above, suggests that the leadership of the sector must have a global, multisectoral vision and access to global knowledge and information to meet the new challenges.

The Minister of Agriculture must be able to deal with issues of equity, the environment, health, trade, energy and the economy.

An examination of these issues demonstrates the need for leadership with a global vision and access to global knowledge and global information that is based on sound science. The IICA Leadership Center seeks to help the leaders of agriculture in the Hemisphere acquire this vision and this knowledge.

The 20<sup>th</sup> Century Minister of Agriculture was seen as a minister of production and, hence, a minister of the farming community. Today, with the emphasis on health, nutrition, food safety and food security, the Minister of Agriculture of the 21<sup>st</sup> Century is also the Minister of Consumers: a Minister who must ensure that the nation’s food supply is adequate, safe and reasonably priced. The Minister of Agriculture of the 21<sup>st</sup> Century must therefore have a global multisectoral vision.

As the new United States Secretary of Agriculture, Tom Vilsack, stated to a staff writer from the Washington Post, referring to the new role of the United States Department of Agriculture:

"This is a Department that intersects the lives of Americans two to three times a day. Every single American," he said. "So I absolutely see the constituency of this Department as broader than those who produce our food – it extends to those who consume it." (Black, 2009)

## The expected results from a new model for development

If the conditions for a broader model are provided, then the expected results should be:

- Better rural-urban balance through integral development of both urban and rural areas;
- Greater investments in rural areas, which are essential for:
  - i. Ensuring social and political stability
  - ii. Promoting the competitiveness of agriculture and rural economic activities
- iii. Creating rural agricultural and non-agricultural employment that supports an acceptable level of livelihood in rural areas.
- Increases in productivity and an expansion in food supply to meet the growing food needs and market requirements;

Furthermore, it is critical that appropriate policies and strategies are adopted in order to:

- Increase investments in the rural sector, so as to facilitate the profitable and sustainable use of natural resources;
- Support investments in research, infrastructure and services that will make both the food and agriculture sector and non-agricultural activities in rural areas competitive, profitable and sustainable;
- Support investment for the development of human capital in the rural sector (rural education) so as to increase the skills of the population and improve their standard of living;

- Facilitate investment in the development of rural enterprises and institutions that strengthen rural-urban linkages and the generation of value-added activities and higher incomes.

Such a development model will transform rural isolation into a network of national global prosperity. It is

our view that only by pursuing these noble goals can we truly contribute to reducing rural poverty and assist our countries to achieve the MDGs of reducing poverty by 50% by 2015. A life of dignity for the rural poor can be achieved in our time if we provide the education, the infrastructure, and the appropriate policies to unleash the creativity and enterprise of our people.

## Final remarks

**A**s societies, we have spent money on infrastructure and capacity-building for personal security, health, education and the provision of shelter, but we have left the provision of food to the vagaries of the market. This, in our view, contributes to our high levels of food insecurity.

Our levels of poverty cannot and should not continue. We must modernize the rural sector, strengthen rural communities and provide education, health care, infrastructure, access to

technology and credit so that the poor can achieve their dreams. Unless we promote rural prosperity, there can be no urban peace. The rural poor will rise up and will be a challenge to peaceful social existence and democratic governance in our countries.

In IICA, we are aware that only by pursuing state policies of social inclusion, policies of equity and transparency, and policies that promote education and a culture of entrepreneurship and innovation will we win the war against

poverty. It is clear that, in the absence of policies in these areas, poverty and marginalization in the rural economy will continue. One area, however, that must be highlighted is financial democracy; in all our societies, the rural poor need to have access to financial resources to support agricultural development.

This is a war that will not be won by the traditional weapons of war, but by the new weapons of education, knowledge, the application of technology, investment, and the promotion of an environment that favors the growth and development of the population.

It must be our responsibility to reduce the inequality and social injustice that prevail in so many countries of our hemisphere. Modern agriculture and rural development are keys to poverty reduction, because the majority of the poor live in rural areas.

We are convinced that we need a new development model that can unleash the talent, the energy and the enterprise of the people of the Americas so that the agricultural and rural sectors can

compete internationally. This model will also facilitate a culture of excellence that results in the generation of information, knowledge, leadership and technical support, which will help to improve the lives of the population and ensure the prosperity of the nations of the hemisphere.

But even more than a new model of development, we need new leadership that understands the multifunctional, multidimensional role of the agricultural sector and that can integrate the social, technical, environmental and political dimensions of the sector into a strategic instrument for development.

Mahatma Gandhi, that great apostle of peace and brotherhood, reminded us in “Lesson in Leadership,” that, unless we take care, seven things will destroy us: wealth without work, pleasure without conscience, knowledge without character, commerce without morality, worship without sacrifice, science without humanity, and politics without principles.

We, as leaders in the agriculture and food sector, need to define the road map



to food security, to re-examine our current actions, and to define a road to the future. This future must include policies of social inclusion that ensure equity, sustainability, competitiveness and environmental responsibility, where the agricultural and rural sector of our countries is seen as a key component of integral development. If this is not our goal, then the crisis we face will worsen and the social and political progress we have achieved will be undermined.

Therefore, we have a sacred responsibility, a responsibility to humanity, a responsibility to the future of our planet. We must not fail to provide viable solutions today, in order to ensure a tomorrow of social equity and rural prosperity. We cannot continue to live in a world of declarations and unfulfilled promises; now is not the time for more declarations, now is the time to realize the MDGs and to deliver results for the people of the Americas so that they can experience the true meaning of the dream of Simon Bolivar, who said in his famous letter from Jamaica in 1815:

"More than anyone else, I desire to see the Americas fashioned into the greatest nation in the world; greatest not so much by virtue of her area and wealth as by her freedom and glory."  
(Salcedo, J. *et al*, 1991)

In April of 2009, the Heads of State and Government of the Americas met for the Fifth Summit of the Americas in Port of Spain, Trinidad and Tobago. The theme of this important encounter was: "Securing Our Citizens' Future by Promoting Human Prosperity, Energy Security and Environmental Sustainability." We have indicated that we shall make little or no progress in promoting human prosperity, energy security, and environmental sustainability unless food security, agricultural development, and the rural economy are priorities on national and international development agendas.

We are not insensitive to the major challenges that lie ahead, but we believe that, at the beginning of this

21<sup>st</sup> Century, we have the means, the technology and the resources to eliminate hunger and suffering from our world. There is no morally justifiable reason for the continued existence of hunger and misery from lack of food and opportunity in a world of global prosperity.

Food is a basic right for every citizen of the world and, therefore, the food and agricultural sector must be a central component of the development agenda of every country and must be given the appropriate resources for its development and sustainability. ■

## References

- ACIAR (Australian Centre for International Agricultural Research). 2008- 2009. Partners. Finsbury Green. Australia.
- Black, J. 2009. Vilsack: USDA Must Serve Eaters as Well as Farmers (on line). Washington, DC, US. Consulted Feb. 5. Available at <http://www.washingtonpost.com>.
- Brathwaite, Ch. 2002. Transforming IICA: Report of the Director General. San Jose, CR.
- ECLAC (Economic Commission for Latin America and the Caribbean). 2007. Estudio económico de América Latina y el Caribe. Santiago, CL, United Nations.
- FAO (Food and Agriculture Organization of the United Nations). 2008. Informe Políticas para promover y/o fortalecer la participación y la acción conjunta entre actores público-privados en el desarrollo rural. Brasilia, BR.
- Gandhi, M. 1984. The collected works of Mahatma Gandhi. Ministry of Information and Broadcasting, Publications Division, India.
- Gore, A. 2007. Acceptance Speech for the Nobel Peace Prize. Oslo, NO.
- High-level Meeting on Food Security for All (on line). Madrid, Spain. Consulted Jan. 2009. Available at [http://www.ransa2009.org/docs/docs/declaracion\\_esp\\_ransa009.pdf](http://www.ransa2009.org/docs/docs/declaracion_esp_ransa009.pdf)
- IFPRI (The International Food Policy Research Institute). 2008. High Food Prices: The What, Who, and How of Proposed Policy Actions. Policy Brief.
- IICA (Inter-American Institute for Cooperation on Agriculture). 2006. 2006-2010 Medium Term Plan. CR. (Official Documents Series).
- \_\_\_\_\_. 2008. Estrategia del IICA para la cooperación técnica en seguridad alimentaria. Not published.
- \_\_\_\_\_. CR. 2008. Temas relevantes: Seguridad alimentaria. Consulted Feb. 2009. Available at <http://www.iica.int>
- Lopez Melero, M.; Maturana Romecin, H.; Perez Gomez, A.; Santos Guerra, MA. 2003. Conversando con Maturana de Educación. Malaga, Aljibe, SL.
- OAS (Organization of American States). 2008 (on line). Address by the Executive Director of the World Food Programme, Josette Sheeran. Washington, DC, US. Consulted Dec. 2008. Available at: <http://www.oas.org>
- Paz, J.; Benavides, H. 2008. Higher Food Prices and their Possible Impact on Agriculture in Latin America and the Caribbean. *ComunIICA* January-April 2008:10-29.
- Rodriguez, A. 2008. Latin America: Beyond the Food Crisis. Institute of the Americas, Andean Development Corporation (CAF), ECLAC.
- Salcedo, J. et al. 1991. Latin America: an agonizing dilemma. Violeta Publisher. Miami, Florida.
- Sheeran, J. 2008. Twenty-Ninth Lecture of the Series of the Americas: "Confronting the challenge of the Global Food Crisis in the Americas". Washington, DC, US.
- Trejos, R. 2007. Agriculture and the new challenges of development. *ComunIICA* May August 2007: 27-41
- World Bank. 2008. Agriculture for Development. World Development Report 2008, Washington, DC, US.