

Food and Nutrition Insecurity in Latin America and the Caribbean



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**Rodrigo Martínez
Amalia Palma
Eduardo Atalah
Anna Christina Pinheiro**

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The present document was authored by Rodrigo Martínez and Amalia Palma, of the ECLAC Social Development Division, and Eduardo Atalah and Anna Christina Pinheiro, of the University of Chile School of Medicine.

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The opinions expressed in this document, which has not been subject to editorial review, are the exclusive responsibility of the authors and do not necessarily represent the views of the Organization.

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Foreword

Despite a prolonged period of substantial progress on the social and economic front in Latin America and the Caribbean, large segments of the population are still suffering from food insecurity and chronic undernutrition. Persistent inequities in income distribution and access to social protection networks mean that the members of more vulnerable households in the poorer areas of the region's countries receive insufficient food and nutrition, which impedes their normal development.

Food production has risen steadily in the region and exceeded the population's requirements by over 40% in the middle of this decade. Some 45 million people, however, still did not have access to sufficient food, and 4 million children under the age of five were reportedly underweight and over 8 million were short in height for their age.

Food insecurity has become an increasingly complex problem since food prices soared on local and international markets in 2007 and the global economic crisis unfolded in 2008, severely curtailing people's ability to acquire food items. Average wages in 2008 allowed people to purchase the same amount of food units as 10 years earlier; yet in 2002-2006, purchasing power had increased by up to 70%.

Climate change meanwhile is increasing the frequency of natural disasters, and the capacity of vulnerable populations to recover from their devastating impact is diminishing.

The population of poor people is therefore swelling, and vulnerability to food and nutritional insecurity is increasing throughout the region. According to the latest information published by the United Nations Food and Agriculture Organization, this vulnerability could reverse all the progress made since 1990 and plunge 53 million people back into the ranks of the undernourished.

In order to improve access to food and reduce chronic undernutrition, the Governments of the region need to strengthen their social protection policies by pursuing comprehensive lines of action to tackle food insecurity and undernutrition as part of a long-term development strategy.

This paper is the result of a joint initiative by the Economic Commission for Latin America and the Caribbean and the World Food Programme. It aims to analyse and disseminate the information available on hunger and undernutrition in the context of the current crisis. The paper examines the socio-economic risks and consequences of the rise in food prices, the

international economic crisis and climate change and how these are affecting food security and nutrition levels among the vulnerable populations of Latin America and the Caribbean.

It is our hope that this work will make a positive contribution to the debate and help the region's countries achieve tangible progress in the eradication of hunger and chronic undernutrition.

Pedro Medrano
Regional Director for
Latin America and the Caribbean
World Food Programme

Alicia Bárcena
Executive Secretary
Economic Commission for
Latin America and the Caribbean

Executive Summary

The problem of food and nutrition insecurity in the region has been widely studied in Latin America and the Caribbean. However, despite the progress achieved in the last four decades, much work remains in the effort to eliminate food and nutrition insecurity in the region.

In light of the changes triggered by rising food prices and the global financial crisis, and the new challenges they present, the WFP Regional Office has asked ECLAC to begin a new line of work to strengthen analysis of the issues involved. ECLAC is to develop technical documents and venues for collaboration and joint analysis. In this context, the present document seeks to set forth some bases for discussion. It includes a brief summary of the region's socioeconomic, environmental and food situation, the challenges posed by the current international and regional scenario, the impact of this scenario on the region's most vulnerable groups, and some proposed approaches for intervention.

In order to set the analysis on a clear conceptual footing, the document begins by explaining the basis for its approach to analysing the problem of hunger and child undernutrition in the region, and provides an overview of the causes and consequences of the problems highlighted in the specialized literature on the subject. It then proceeds to examine the new challenges, and the policy options for dealing with these.

1. Conceptual Framework

Conceptually, *hunger* is associated with *food and nutrition insecurity*. Operationally, according to FAO, the associated indicator is *undernourishment*. Undernourishment is a reflection of chronic food insecurity, in which food intake is insufficient to meet basic energy requirements on a continuing basis¹. A lack of economic resources sufficient to purchase a basic food basket, as defined in a cultural context, signals what may be termed *extreme poverty* or *indigence*.

¹ Energy requirements depend on age, anthropometric characteristics and physical activity. Based on information from FAO, the minimum requirement in the region's countries is on the order of 1,800 kilocalories/day/person. (FAO, 2004b; ECLAC 2004b, pp. 88-90).

As stated at the 1996 World Food Summit, *food security* is present when there is permanent access for all to food nutritionally adapted in quantity and quality, and culturally acceptable, for a healthy and active life.

Food vulnerability consists of “the probability of an acute decline in food access or consumption in reference to some critical value that defines minimum levels of human well-being” (WFP, 2002).

The effects of undernutrition can manifest themselves throughout the life cycle, either as immediate effects or as long-term –even intergenerational– consequences. The principal factors capable of turning undernutrition into a public health problem can be classified as environmental (natural or anthropogenic), social/cultural/economic (associated with problems of poverty and inequality) and political/institutional. All of these can increase or diminish biomedical and productive vulnerabilities and, through these, affect the quantity and quality of nutrients ingested, as well as the ability to utilise them, thus creating a state of undernutrition.

Undernutrition has adverse effects in various dimensions of people’s lives, including health, education and economics – an area in which it can affect public and private costs and expenditures–, as well as productivity. These effects cause major problems in terms of social integration, and lead to increased or more acute poverty and indigence. This creates a vicious circle in which the worsening of these factors makes people more vulnerable to undernutrition

2. Economic and social context

2.1 Economic change

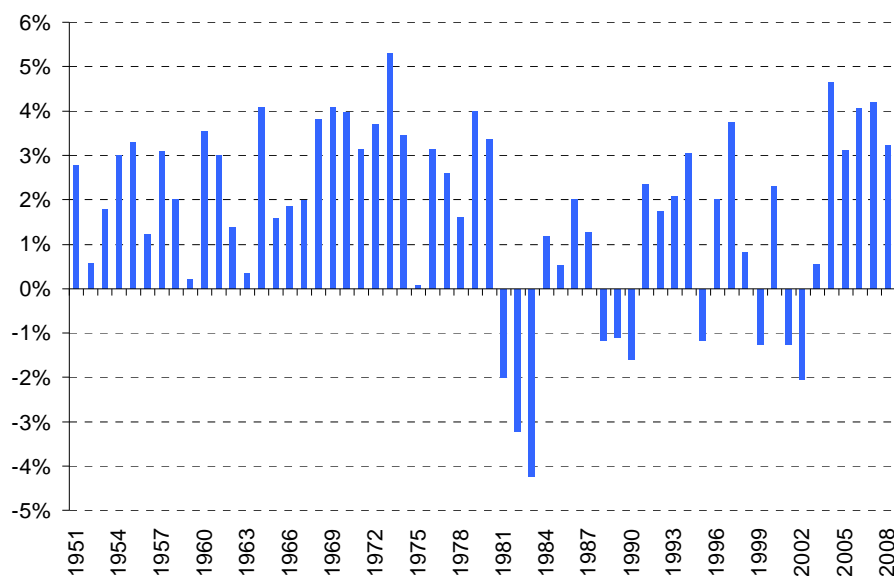
Historically, economic growth in Latin America and the Caribbean has been unstable, with periods of major volatility. This situation is not universal in the region, but at different times has affected certain countries significantly. Intertemporal analysis shows that in 10 of the last 30 years the region’s growth has been negative. In five of these years, growth was near or below 1%; in six, it was around 2%, and in nine, above 3%. The greatest decline in growth was during the debt crisis of the early 1980s. In the last five years, the region seems to have established a more stable trajectory, with annual per capita GDP growth of more than 3%. A peak of 4.6% was reached in 2004, a rate that had not been seen since the early 1970s.

As many fora and documents have made clear, a large portion of the Latin American and Caribbean population suffers from the scourge of poverty and indigence. Thus, although there have been considerable improvements in the last few decades, nearly 13% of the population lacks sufficient income to cover minimum nutritional requirements, and one out of three inhabitants lives below the poverty line.

Information on national income used to fund social policy in the region’s countries has major deficiencies in terms of precision and exhaustiveness. Despite this, the region has succeeded in providing relatively standardized periodic information on social spending/investment. According to the available figures, the region as a whole has increased the macroeconomic priority of public social spending, from 12.8% of the region’s GDP in 1990-1991 to 15.1% for 2002-2003.²

² ECLAC is currently in the process of updating the figures, and information up to at least 2005 is expected to be available soon.

FIGURE I
LATIN AMERICA: CHANGE IN PER CAPITA GDP BETWEEN 1951 AND 2008
(In percentages)



Source: ECLAC, Economic Development Division, 2009.

2.2 The food and nutrition situation in Latin America and the Caribbean

The last few years have seen a significant change in world grain production. This has affected amounts available for consumption, and has correspondingly played a role in food price fluctuations in world markets. According to recent production forecasts, 2008-2009 harvests are expected to significantly improve the global supply-demand balance for grains. Even assuming that use increases more than expected, world grain reserves could increase by 8%.

For the Central American and Caribbean subregion, FAO projects total grain production of 41.5 million tons in 2008. This is roughly 800,000 tons more than the previous year, and above the average for the last five years. Estimates on wheat call for an 11% increase in world production in 2008, with a volume much greater than the average for the last five years. An overall increase in rice reserves is expected to occur for the second consecutive year. World maize production for 2008 is provisionally estimated to be around 3.5 million tons, or approximately 10% more than in 2007.

Global advances in production have significantly increased food availability, and this has been accompanied by an increase in real consumption of food energy and of macro- and micronutrients in all regions. In Latin America and the Caribbean, countries have seen stable growth, reaching over 40% of the minimum energy requirement established by FAO.

However, for estimating that approximately 7% of the region's children under the age of five suffer from underweight (weight for age < -2 SD under the NCHS standard) and 15.4% are suffering from stunting (height for age < -2 SD under the NCHS standard).

According to World Health Organization (WHO) estimates, in developing countries with high mortality rates, child undernutrition is the cause of 15% of the years lost to death or disability. The impact is even greater (by approximately 10%) if one takes into account the effects of deficiencies in certain specific nutrients, such as iron, vitamin A and zinc. The 1990-2006 period saw a reduction in the child mortality rate in the region (from 55 to 27 per 1,000 live births) (UNICEF, 2007). The region thus led the world in progress towards achieving this Millennium Development Goal (MDG).

The nutritional problem is not limited to issues of weight and height; it also involves numerous micronutrients that affect immunity, intellectual development and mortality. The most frequent problem in the region is iron deficiency anaemia, which affects one out of three children under the age of five, and over 50% in some of the region's countries.

Reducing child undernutrition is a prerequisite to achieving the Millennium Development Goals. However, there is limited information on which health and nutrition practices do most to further this effort. The most common types of intervention in the region are the following: Care, and support for growth and development from gestation to age five, Information, education and communication to encourage good nutritional practices, Micronutrient supplementation, Fortification of foods, Distribution of fortified food supplements, and latter, conditional transfer programmes.

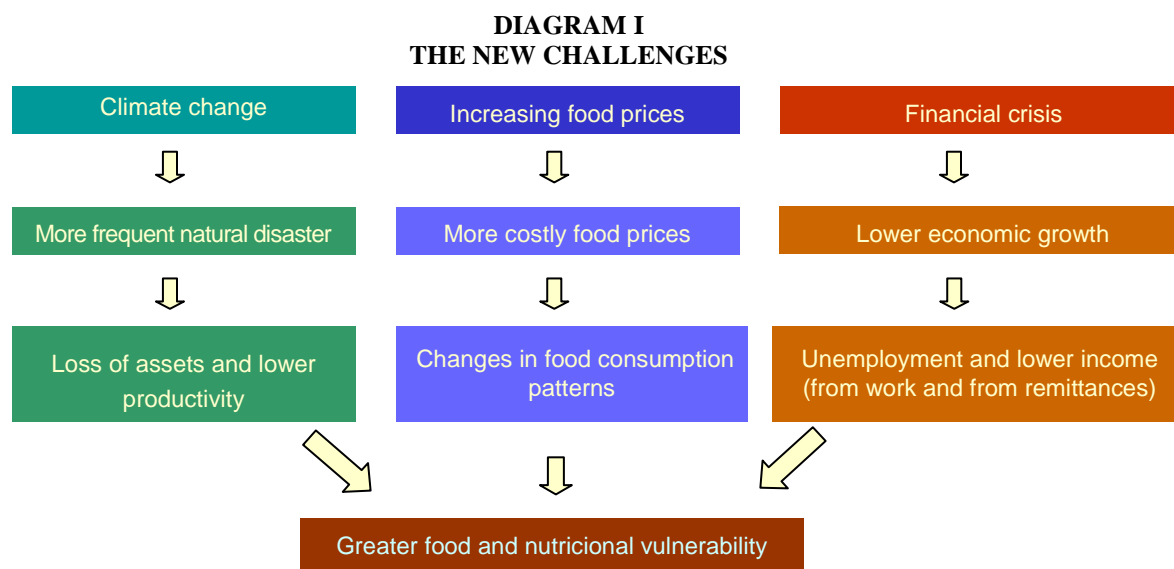
3. Crisis and vulnerability

Global economic, social and environmental events of the last few years are having significant effects on the countries' development, increasing the risk of food and nutrition insecurity, and posing new challenges for decision-makers, who must seek creative ways of turning this situation into an opportunity. The diagram a represents an overview of the challenges resulting from the above-mentioned "events", or crisis-generating realities.

3.1 Climate change

For some years, the world has been undergoing a process of climate change that many scientists believe is here to stay. The process is thought to be the result of the steady increase in fossil fuel use in recent decades, which has been intensified by a significant rise in demand to feed the growth demands of Asia, particularly China and India.

Various studies by FAO and others indicate that this process leads to an increase in ocean temperatures, which in turn increases the frequency and intensity of natural disasters. The region has been particularly affected by this phenomenon in the form of more intense hurricane activity in the Caribbean and Central America. Increases in continental temperatures lead to the expansion of arid zones, increased desertification and a shifting agricultural frontier. On the other hand, some sectors have benefited from an improving agricultural climate, especially in the south



Source: Martínez R. (2008).

Various climate change studies show that the Latin American and Caribbean region has been particularly affected in recent years by global climatic changes. The impact in the region has manifested itself in various ways, including periods of intense drought, intense periods of precipitation and more frequent extreme climatic phenomena such as hurricanes.

3.2 Changing food prices

From early 2007 to December 2008, food prices in Latin America and the Caribbean increased steadily, for a cumulative increase of 30%. As occurred worldwide, however, July and September 2008 saw a flattening of the curve, with major declines in some products.

The FAO food price index fell between the final months of 2008 and March 2009, at which point increases could be seen. Nevertheless, dairy products and fats and oils have fallen as low as their late 2006 levels. The rising trend in rice and meat prices has also changed, though to a lesser extent. The case of sugar is unique among these, with average prices in May 2009 reaching a several-year high.

Food prices directly affect urban wage earners, who purchase all of their food in the marketplace, 2008 wages, on average, can purchase the same quantity of food as ten years ago, since purchasing power in 2002-2006 rose 70%.

3.3 The financial crisis

The global financial crisis that began in October of 2008 crisis is affecting the region through various channels. According to ECLAC (2009), the main channels for the transmission of the crisis are the slowdown in exports, the decline in the price of primary products, the reduction of remittances, the decline in revenue from tourism, and reduced flows of foreign direct investment.

As a direct result of the financial crisis, demand for the region's manufactured goods and raw materials fell, transferring the impact of the crisis to the regional economy, where investment declined, unemployment rose and real wages fell. Added to the decline in securities markets, according to the World Bank report Global Economic Prospects 2009, the flattening curve of import growth in high-income countries can be expected to be reflected in developing countries' export volumes.

The region's GDP growth is expected to fall to 2.1% in 2009 before recovering to the 4% level in 2010.

Also directly impacting household economies is the decline in remittances from family members in the United States and Europe. This affects many local economies, and reduces purchasing capacity, including food purchasing capacity.

4. Alternatives for intervention

There is a clear need for social policy, in the region, aimed at reducing undernutrition and hunger. As WFP and ECLAC have emphasized, the policy must be based on a comprehensive long-term strategy, and must be an integral part of overall government policy. Following are some points that may be useful in this context.

4.1 Food Security

- i. Income transfers: Monetary transfers can directly mitigate the resulting problem of access to food, and can have a visible short-term impact.
- ii. In-kind transfers: have the potential to mitigate the effects of the food crisis. This alternative (whether with or without conditions) has the advantage of directing the consumer to the foods provided and preventing the resources from being diverted to other types of purchases.
- iii. Subsidies: Consumption subsidies are designed to increase the demand for specific goods or services. Such subsidies are easy to implement for food purchasing, but require extensive coordination with the retail market, as well as a special system to monitor the foods market.
- iv. Food supplements: Micronutrient supplements are a widely used strategy in the region. Such an approach requires identifying nutritional deficiencies, determining what micronutrients are to be supplied, defining the method by which they are to be delivered, deciding on the formulation to be used, etc.

4.2 Economic Policy

- i. Job protection: One type of short-term measure is job protection, aimed at guaranteeing work for the population most affected by the crisis. This can take the form of unemployment insurance in countries that do not yet have such legislation, or expanded unemployment insurance (extended duration of benefits) in countries that do.
- ii. Incentives for micro-agriculture production: Growing agricultural crops in urban areas is an option, both for subsistence and to allow families to generate additional income by selling their surplus production.
- iii. Access to credit as a means of funding improved living conditions: Access to microcredits, primarily in urban areas, can encourage the development of small businesses designed for the subsistence of the nuclear family. Low interest rates are essential for the success of such initiatives.
- iv. Reduction of personal taxes: temporary reduction of value added taxes (VAT), taxes on foreign currency and/or other personal taxes can increase income in times of crisis.

Reducing taxes on basic foods, such as fruits, vegetables and dairy products (depending on the customs of the country) is especially important.

4.3 Policy related to climate change

- i. Environmental protection and hygiene : Information delivered directly or through media campaigns is recommended to provide training in hygienic practices and sustainable waste management.
- ii. Provision of inputs and technical advice for micro and small agricultural producers : Specialized technical advice should focus on crop productivity, soil and water management, conservation of natural resources, good agricultural practices, diversified production and crop rotation, proper storage, and good marketing practices.

5. Concluding remarks

The food and nutrition problems of the Latin American and Caribbean region are far from being resolved. Enormous segments of the population are affected by hunger and undernutrition, while at the same time malnutrition, in the form of overeating, is increasing daily. This situation is not an isolated problem, but, rather, a further reflection of the great inequalities of income and social protection in the different countries, with extremely poor populations living side by side with groups enjoying the benefits of wealth and economic development.

After the recession of the early 1980s, the region took 14 years to regain its former levels of per capita income, but it took 25 years to return to previous poverty levels. Today's economic scenario does not appear to be any better in this regard. On the contrary, the risks are greater, since this crisis has its origin in the developed world. Thus, the developed economies are in recession, at the same time as growth in most of the LAC countries is nil or negative, and projections for the current year point to growing unemployment, increased labour informality, declining remittances, and a potential flow of migrant workers returning to their countries of origin.

The rise in food prices appeared to be weakening with the economic crisis, but data from the last few months indicates otherwise. Prices are increasing again, although they are still near their 2006 and 2007 averages (except for sugar, which has risen more than the other basic foods). The fuel price scenario is similar.

On the whole, this year's combination of greater economic vulnerability and high food prices presents a more complex, and even more urgent, challenge than the region already faced, given that crises on three fronts are reinforcing each other. Important work remains to be done in developing initiatives, defining projects and improving inter-institutional coordination to make policy more cost effective.

Finally, it is worth remembering that "[I]t is cheaper to invest in eradicating child undernutrition in the region than to suffer the social and economic consequences. Accomplishing this requires not only resources, technically well defined policies and management models that maximize impact and efficiency, but also the commitment and active participation of all sectors of society" (Martínez, R., 2008).

Working to achieve food and nutrition security is not a cost, but rather an investment. The true cost lies in not making the investment. Vulnerability is a long-term social and economic liability, and puts the countries' political stability at risk.

Introduction

The problem of food and nutrition insecurity in the region has been widely studied in Latin America and the Caribbean. Institutions and researchers have adopted various approaches to characterizing the situation and providing guidance for government policy. However, despite the progress achieved in the last four decades, much work remains in the effort to eliminate food and nutrition insecurity in the region. In recent times, attaining this goal has become an increasingly difficult task, given the challenges posed by the financial, food and energy crises, as well as by climatic change and its consequences.

It is in this context that, in 2003, WFP and ECLAC began to develop a number of joint projects designed to further the policy-making process. First, three subregional studies were conducted on hunger and poverty in Latin America and the Caribbean. Hypothesising that the consequences of undernutrition are more than purely social in nature, efforts were made to develop a methodology for assessing the economic and social impact of hunger. This methodology was first used in six Central American countries and the Dominican Republic, and subsequently in five Andean countries and Paraguay.

These studies have had major impacts in the region, contributing to a better understanding of the characteristics of food and nutrition insecurity in the countries. They have also helped to place the social and economic dimensions of the scourge of child undernutrition on the agenda, as policy makers seek to find solutions.

In light of the changes triggered by rising food prices and the global financial crisis, and the new challenges they present, the WFP Regional Office has asked ECLAC to begin a new line of work to strengthen analysis of the issues involved. ECLAC is to develop technical documents and venues for collaboration and joint analysis. In this context, the present document seeks to set forth some bases for discussion. It includes a brief summary of the region's socioeconomic, environmental and food situation, the challenges posed by the current international and regional scenario, the impact of this scenario on the region's most vulnerable groups, and some proposed approaches for intervention.

In order to set the analysis on a clear conceptual footing, the document begins by explaining the basis for its approach to analysing the problem of hunger and child undernutrition in the region, and provides an overview of the causes and consequences of the problems highlighted in the specialized literature on the subject. It then proceeds to examine the new challenges, and the policy options for dealing with these.

I. Hunger and undernutrition in Latin America and the Caribbean

1. Conceptual framework³

1.1 Conceptual foundation

Conceptually, *hunger* is associated with *food and nutrition insecurity*. Operationally, according to FAO, the associated indicator is *undernourishment*. Undernourishment is a reflection of chronic food insecurity, in which food intake is insufficient to meet basic energy requirements on a continuing basis⁴. A lack of economic resources sufficient to purchase a basic food basket, as defined in a cultural context, signals what may be termed *extreme poverty* or *indigence*. From a health perspective, it is also important that food be consumed with a reasonable degree of nutritional balance, and that it be consumed under conditions that meet at least minimum conditions of hygiene, if it is to produce the expected positive effects and not lead to problems of malnutrition due to excess intake (obesity) or to a deficiency thereof (low birth weight, underweight and/or low height for age, low weight for height, deficiencies in iron, zinc, vitamin A or other micronutrients, etc.).

Following is a description of the main theoretical foundations for the analysis of hunger and undernutrition in Latin America as related to the above concepts.

(a) Food security and vulnerability

As stated at the 1996 World Food Summit, *food security* is present when there is permanent access for all to food nutritionally adapted in quantity and quality, and culturally acceptable, for a healthy and active life. In other words, it depends on the availability of, access to, and adequate biological use of food.

³ For more detail, see Martínez, R. and Fernández, A.: Modelo de análisis del impacto social y económico de la desnutrición infantil en América Latina.

⁴ Energy requirements depend on age, anthropometric characteristics and physical activity. Based on information from FAO, the minimum requirement in the region's countries is on the order of 1,800 kilocalories/day/person. (FAO, 2004b; ECLAC 2004b, pp. 88-90).

Food vulnerability consists of “the probability of an acute decline in food access or consumption in reference to some critical value that defines minimum levels of human well-being” (WFP, 2002). Thus, it involves the *potential loss of food security*. The emphasis, therefore, must not be limited to those with present food and nutrition problems, but must also include those with a high probability of experiencing such problems in the future. This approach helps to anticipate adverse developments, and paves the way for preventive measures to target supply, rationalize the use of resources and maximize their efficiency and impact. Thus:

$$\text{Vulnerability} = \text{Risk} - \text{Capacity to cope}$$

Vulnerability can be defined as a vector composed of two interacting components. The first consists of environmental (natural, social and economic) conditions (or variables); the second concerns the individual and collective capacity and will to take action to counter these conditions.

(b) Demographic, epidemiological and nutritional transitions

A population’s age characteristics and activities are important in determining its nutritional and energy intake requirements. The economic, demographic and epidemiological changes that have taken place in Latin America in recent decades make demographic transition central in any analysis of the countries’ situations, and a crucial factor in designing long-term food and nutrition policy.

Demographic transition is a process of change characterized by a significant drop in birth rates and declining mortality rates for children under the age of five, as well as an increase in life expectancy (the latter normally lagging behind the drop in birth and mortality rates). This combination of factors shapes population growth, and triggers a significant change in the population pyramid, with the proportion of adults and older adults increasing. Epidemiological transition entails long-term changes in patterns of mortality, disease and disability as a result of demographic and socioeconomic change. Nutritional transition consists of changes in a population’s nutritional profile as a result of changes in diet and levels of physical activity.

A central factor in explaining the region’s epidemiological and nutritional situation is the sudden change in lifestyle associated with increasing urbanisation. Of particular relevance are changes in diet, physical activity, use of tobacco, alcohol and drugs, and stress, as well as mental health problems.

(c) The life cycle

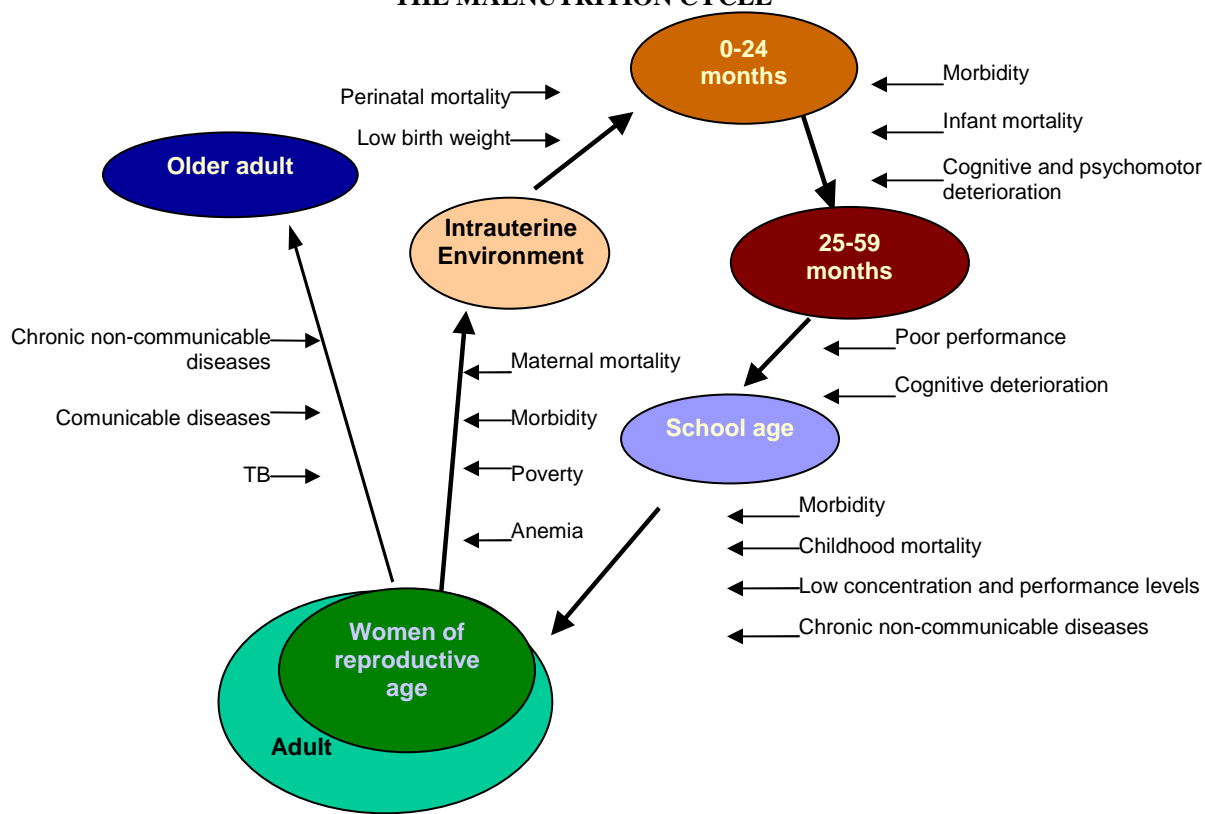
The effects of undernutrition can manifest themselves throughout the life cycle, either as immediate effects or as long-term –even intergenerational– consequences. In order to understand them one must distinguish the various phases of the life cycle: intrauterine and neonatal life, nursing, preschool and school ages, and adulthood.

1.2. Causes of undernutrition

The principal factors capable of turning undernutrition into a public health problem can be classified as environmental (natural or anthropogenic), social/cultural/economic (associated with problems of poverty and inequality) and political/institutional. All of these can increase or diminish biomedical and productive vulnerabilities and, through these, affect the quantity and quality of nutrients ingested, as well as the ability to utilise them, thus creating a state of undernutrition.

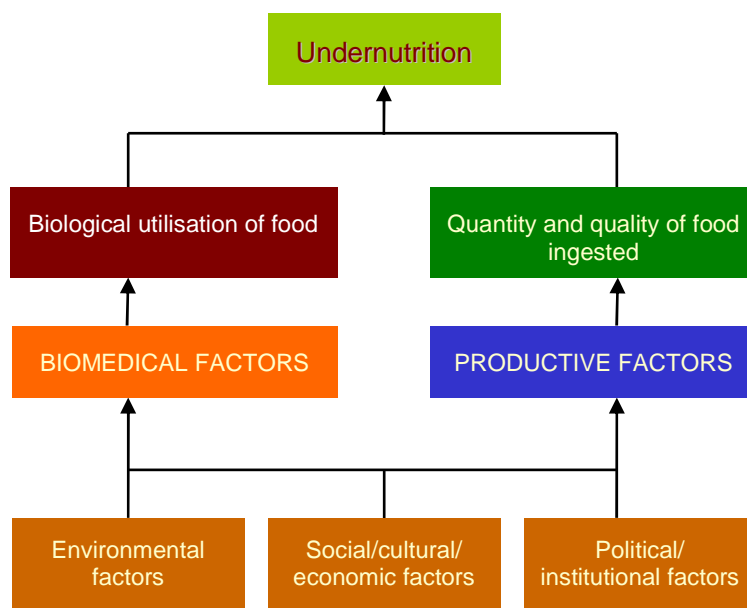
The importance of each of these factors depends on the intensity of the resulting vulnerability, and on an individual’s stage in the life cycle.

**DIAGRAM 1
THE MALNUTRITION CYCLE**



Source: Adapted from Branca, F. and Ferrari, M. (2002).

**DIAGRAM 2
FACTORS ASSOCIATED WITH THE DEVELOPMENT OF UNDERNUTRITION**



Source: Martínez, R. and Fernández, A. 2006.

The environmental factors are a function of the environment in which an individual and family live. They include the risks of the natural environment and its cycles (floods, droughts, freezes, earthquakes, etc.), as well as those of human origin (water and air pollution, contamination of food, expansion of the agricultural frontier, etc.).

The social/cultural/economic factors include factors associated with poverty and inequality, schooling and cultural patterns, employment and wage levels, access to social security, and coverage by social assistance programmes.

The political/institutional factors include government policies and programmes specifically designed to address a population's food and nutrition problems.

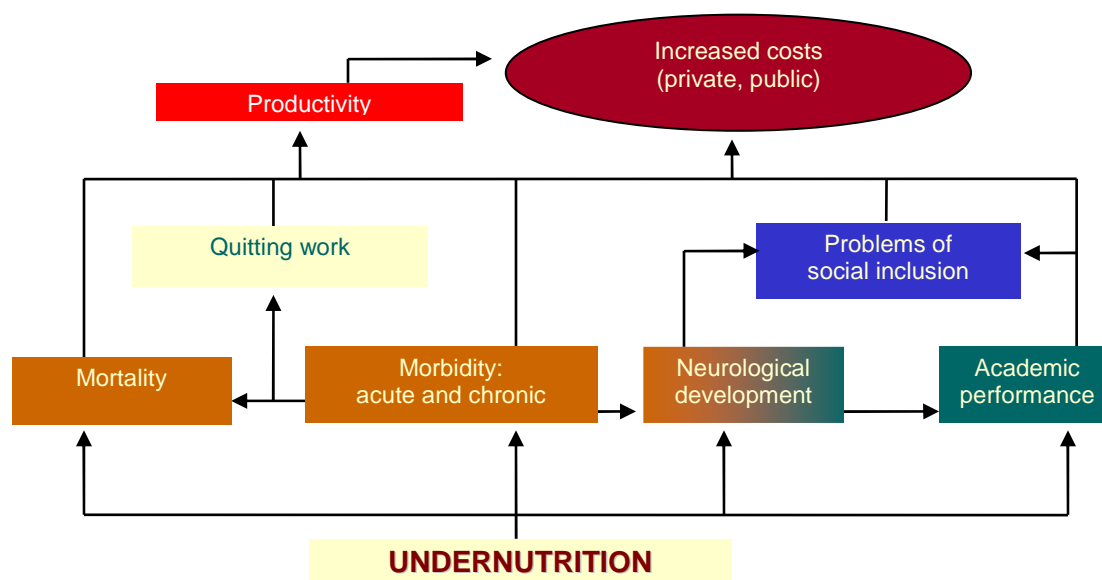
The productive factors include those directly associated with the production of food, and with the at-risk population's access to food. The availability and autonomy of a country's supply of food energy depends directly on its production processes, specifically, the extent to which these take advantage of the natural resources, and the degree to which they mitigate or intensify environmental risks.

Finally, the biomedical factors are those that affect individual susceptibility to undernutrition, since the lack of certain elements limits the body's ability to make biological use of the foods consumed (independent of the quantity and quality of the food).

1.3. Consequences of undernutrition

Undernutrition has adverse effects in various dimensions of people's lives, including health, education and economics –an area in which it can affect public and private costs and expenditures–, as well as productivity. These effects cause major problems in terms of social integration, and lead to increased or more acute poverty and indigence. This creates a vicious circle in which the worsening of these factors makes people more vulnerable to undernutrition.

DIAGRAM 3
CONSEQUENCES OF UNDERNUTRITION



Source: Martínez, R. and Fernández, A., 2006.

These effects can be immediate or life-long. They are more likely to lead to undernutrition in individuals who have suffered from undernutrition in earlier stages of the life cycle. Thus, problems of intrauterine undernutrition can create difficulties from birth through adulthood. Various studies have shown that intrauterine undernutrition increases the adult risk of chronic diseases such as cardiovascular disease and diabetes (Barker and others, 1989)

In terms of its impact on health, studies have shown that undernutrition increases the incidence and/or intensity of certain (particularly infectious) pathologies, and increases mortality rates at different stages of the life cycle. The way in which these effects manifest themselves depends on a country's epidemiological profile.

In the educational realm, undernutrition affects academic performance, due to the problems caused by illness and the learning disabilities associated with deficiencies in cognitive development. The result is a greater likelihood of an individual's entering school late, repeating grades, dropping out and, ultimately, having a low level of education.

Finally, undernutrition, and its effects on health and education, also entails major economic costs for individuals, their families and society as a whole.

2. Economic and social context

2.1. Economic change

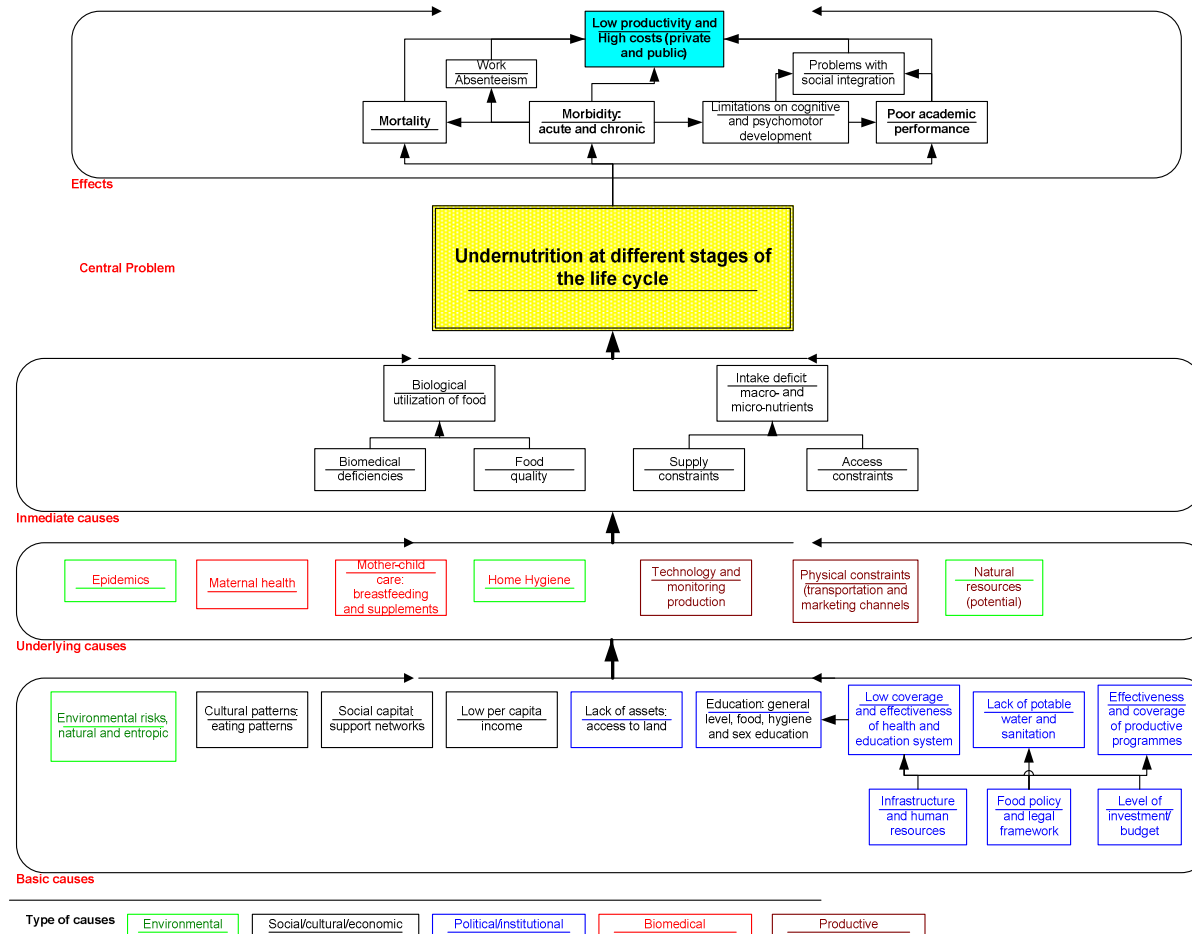
Historically, economic growth in Latin America and the Caribbean has been unstable, with periods of major volatility. This situation is not universal in the region, but at different times has affected certain countries significantly. The periodic fluctuations, combined with differences between countries and inequalities within countries, increases vulnerability in much of the population. As a result, the region has gained the distinction of being the most unequal in the world.

Intertemporal analysis shows that in 10 of the last 30 years the region's growth has been negative. In five of these years, growth was near or below 1%; in six, it was around 2%, and in nine, above 3%. The greatest decline in growth was during the debt crisis of the early 1980s, which produced a 4.2% drop in per capita GDP in 1983. In the last five years, the region seems to have established a more stable trajectory, with annual per capita GDP growth of more than 3%. A peak of 4.6% was reached in 2004, a rate that had not been seen since the early 1970s. This trajectory brought per capita GDP from US\$ 3,960 in 2002 to US\$ 4,712 in 2007⁵.

The differences between countries is evident if one examines per capita GDP and its fluctuations between 1990 and 2007. While the overall region grew 26%, Haiti's economy declined 26%, the economies of the Bahamas and Paraguay grew less than 2%, and five other countries had growth rates on the order of 10%. Although 12 of the 33 countries studied grew by more than 50%, Brazil –one of the countries in the 10% range– because of its size and its low growth rate, lowers the average. The greatest growth was in Trinidad and Tobago (142.4%), Chile (94.8%) and Panama (71%). In per capita GDP for 2007, the Bahamas, Antigua and Barbuda, and Trinidad and Tobago stand out with levels above US\$ 10,000, while Haiti's was under US\$ 400, Guyana's and Nicaragua's under US\$ 1,000, and figures for the Plurinational State of Bolivia, Ecuador, Guatemala, Honduras and Paraguay under US\$ 2,000. The regional average was above US\$ 4,700.

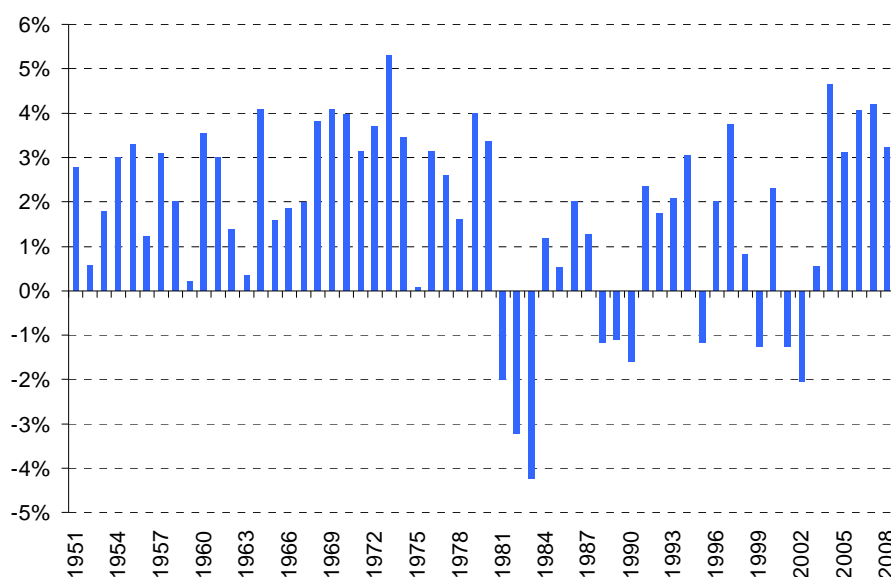
⁵ Figures expressed in constant 2000 US\$.

DIAGRAM 4
TREE OF CAUSES AND EFFECTS OF UNDERNUTRITION



Source: Martínez, R. and Fernández, A., 2006.

FIGURE 1
LATIN AMERICA: CHANGE IN PER CAPITA GDP BETWEEN 1951 AND 2008
(In percentages)



Source: ECLAC, Economic Development Division, 2009.

The Social Panorama of Latin America and the Caribbean, 2008 indicated that all of the countries had net per capita GDP growth in 2007, although on different scales. While some grew more than 7% (Argentina at 7.6%, Cuba at 7.3%, Panama at 9.7%, Peru at 7.6% and Uruguay at 7.2%), others grew more slowly (Ecuador at 1.0%, Haiti at 1.5% and Mexico at 2.0%), while 12 of the region's 18 countries examined here had growth rates equal to or greater than their 2006 figures.

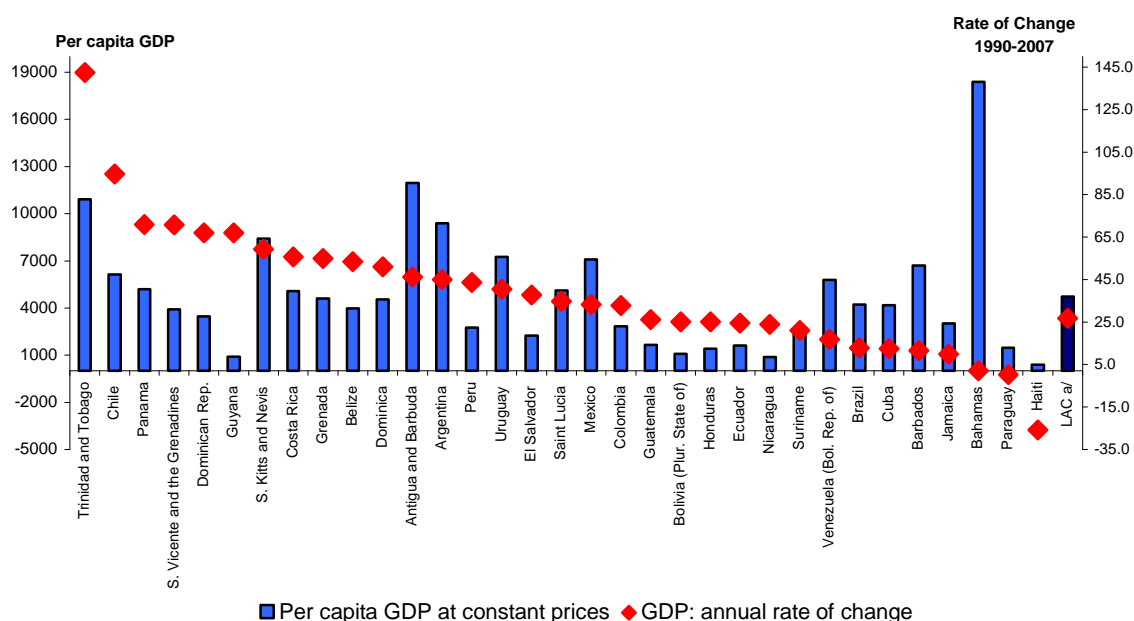
As shown in the Economic Survey of Latin America and the Caribbean, 2007-2008, the region's growth between 2003 and 2007 benefited from a favourable international environment, with the world economy in expansion and liquidity available in international markets. In addition, the developing Asian countries –particularly China and India– were industrializing rapidly, increasing demand and, thus, the volume of the region's exports, as well as improving the region's terms of trade (ECLAC, 2008b):

Economic expansion led to the creation of new jobs, with a corresponding 0.5% increase in the employment rate. Along with this was a continued drop in the urban unemployment rate for Latin America during 2007 – 0.6% below the 2006 figure, and 2.3% below the 2000-2005 average. The drop in unemployment occurred throughout the countries, with declines of 1.5% compared to 2006 in Argentina, Colombia, Panama, Paraguay, the Bolivarian Republic of Venezuela and Uruguay. Only Mexico showed a slight increase in the urban unemployment rate in this period, though the figure remains one of the lowest for the region (ECLAC, 2008).

Nevertheless, the international economic scenario changed significantly beginning in 2007, in terms of both a deceleration of growth and an increase in global inflation. The marked increase in international prices for food and energy that began in 2007 fuelled inflation. Starting in 2007, certain significant changes began to occur on the international economic scene. First, strong growth in world demand has been followed by a slowdown and crisis in the United States. Second, the worldwide rise in inflation over recent months represents an additional factor of uncertainty that is

hampering growth as well as having a negative impact on poverty levels. While this process weakened in the second half of 2008, it was partially offset by the devaluations that occurred in some of the national currencies. At the same time, the financial crisis in the United States is affecting –and will continue to affect– the growth of exports, as well as the flow of remittances that has benefited the countries in recent years. A number of current features of the Latin American economies, such as a reduced vulnerability to external factors, greater fiscal solvency and higher levels of reserves could make it possible to implement countercyclical policies aimed at mitigating the effect of the external environment on the region's performance. Nevertheless, given the continuing progress in reducing external vulnerabilities, the stronger fiscal solvency position and, in several cases, the build-up of reserves which can be used to finance countercyclical policies without jeopardizing external equilibrium, this adverse change in the external context is not expected to have a significant impact on the region as a whole (ECLAC, 2008b).

FIGURE 2
LATIN AMERICA (33 COUNTRIES): CHANGE IN PER CAPITA GDP
BETWEEN 1990 AND 2007, AND PER CAPITA GDP FOR 2007^A



Source: Authors, based on information from ECLAC Statistics and Economic Projections Division.

^a The GDP for Barbados, Dominica, Guyana and Jamaica is expressed at factor cost.

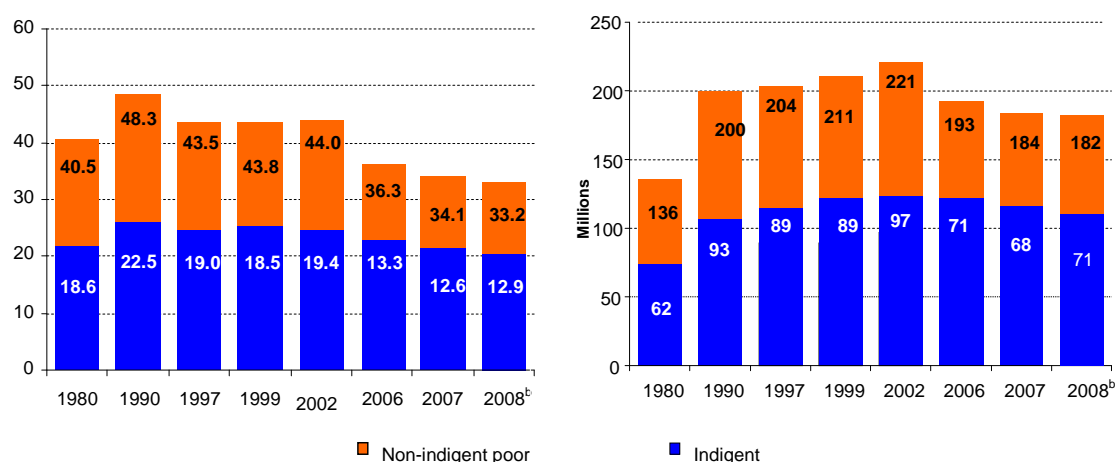
ECLAC estimates that the economy of Latin America and the Caribbean will contract by 0.3% in 2009, while unemployment will be close to 9% – 2.5 percentage points above the 2008 rate of 7.5%.

Lastly, “average earnings grew slowly in 2007 (1.1% on average compared to the previous year’s 2.5%), despite rising in Argentina by over 12%. Real earnings declined by at least 1% in Bolivia, Cuba, Guatemala, Nicaragua and Peru. Progress in 2008 was eroded by higher inflation, and, while the latter is expected to ease next year, weaker job creation associated with slower economic growth means earnings growth is likely to be zero in real terms” (ECLAC, 2008a). Real wages could be affected by nominal increases that partially mitigate the adverse effects of inflation in 2008, as well as by a weakening demand for labour, which limits workers’ negotiating power (ECLAC, 2008c).

2.2. Poverty and indigence

As many fora and documents have made clear, a large portion of the Latin American and Caribbean population suffers from the scourge of poverty and indigence. Thus, although there have been considerable improvements in the last few decades, nearly 13% of the population lacks sufficient income to cover minimum nutritional requirements, and one out of three inhabitants lives below the poverty line.

FIGURE 3
LATIN AMERICA (18 COUNTRIES): CHANGES IN POVERTY
AND EXTREME POVERTY, 1980-2008^a
(Percentage of individuals) *(Population numbers)*



Source: Social Panorama of Latin America and the Caribbean, 2008.

^a Estimated on the basis of 18 of the region's countries plus Haiti. The figures above the bars represent the percentage and total number of poor (indigent plus non-indigent poor).

^b Projections.

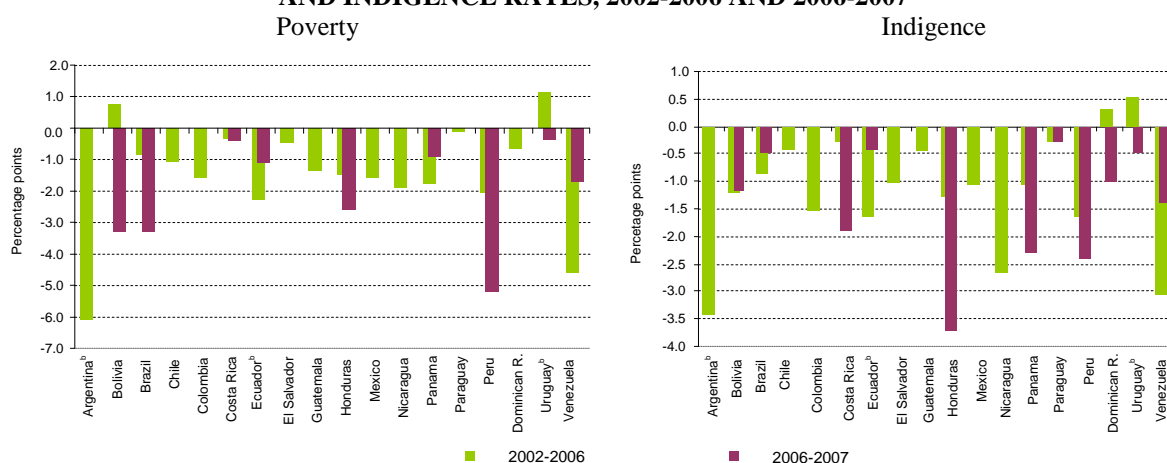
According to the Social Panorama, 2008, "Poverty and indigence levels have fallen in most of the region's countries during the current decade. An analysis of what happened between 2002 and 2006 (roughly, depending on the availability of data in each country) shows that poverty levels have retreated by at least 1.5 percentage points per year in Argentina, the Bolivarian Republic of Venezuela, Colombia, Ecuador (urban area), Honduras, Mexico, Nicaragua, Panama and Peru. The indices have also fallen sharply by around one percentage point per year in Brazil, Chile and Guatemala, and only Bolivia, Dominican Republic and Uruguay have seen an increase in poverty."

"The reductions achieved over the last five years can be seen not only in terms of the percentage of the population living in poverty and indigence, but also when the poverty gap and poverty-gap-squared indices are used (also known as the index of the severity of poverty). These indicators provide a more complete view of poverty conditions by taking account not only of the percentage of people who are poor, but also measuring the shortfall between the average income of the poor and the poverty line, and how those incomes are distributed among the poor (in the case of the second index). In fact, in most countries, the percentage reduction in these indicators was at least as large as in the poverty and indigence rates. In other words, in addition to having reduced the proportion of the population with incomes below the poverty line, the average income of the poor also increased and the dispersion of their incomes narrowed. The few countries that do not fit this

pattern include Guatemala and Honduras, where the percentage reduction in the poverty rate was not very significant, unlike the absolute reduction in percentagepoint terms.” (ECLAC, 2008a).

In all of the countries, the income distribution shows large gaps between the highest and lowest income groups. In Brazil, for example, the 10th (wealthiest) decile received 49.6% of the income in 2006, while the 1st (poorest) decile received only 0.8%. The same pattern is seen in the Plurinational State of Bolivia (with the wealthiest decile receiving 48.7% of income and the poorest receiving 0.3%), Chile (42.2% vs. 1.5%) and the Bolivarian Republic of Venezuela (33.2% vs. 1.5%).

FIGURE 4
LATIN AMERICA (18 COUNTRIES): ANNUALISED CHANGE IN POVERTY
AND INDIGENCE RATES, 2002-2006 AND 2006-2007^a



Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on special tabulations from the respective countries' household surveys.

^a The surveys used for the various countries are for different years. The 2002 period represents the most recent survey available between 2000 and 2002, while for the 2006 period the most recent survey data cover 2004 and 2006. For greater detail on the years used for each country, see table A1 in the annex at the end of the chapter.

^b Urban areas.

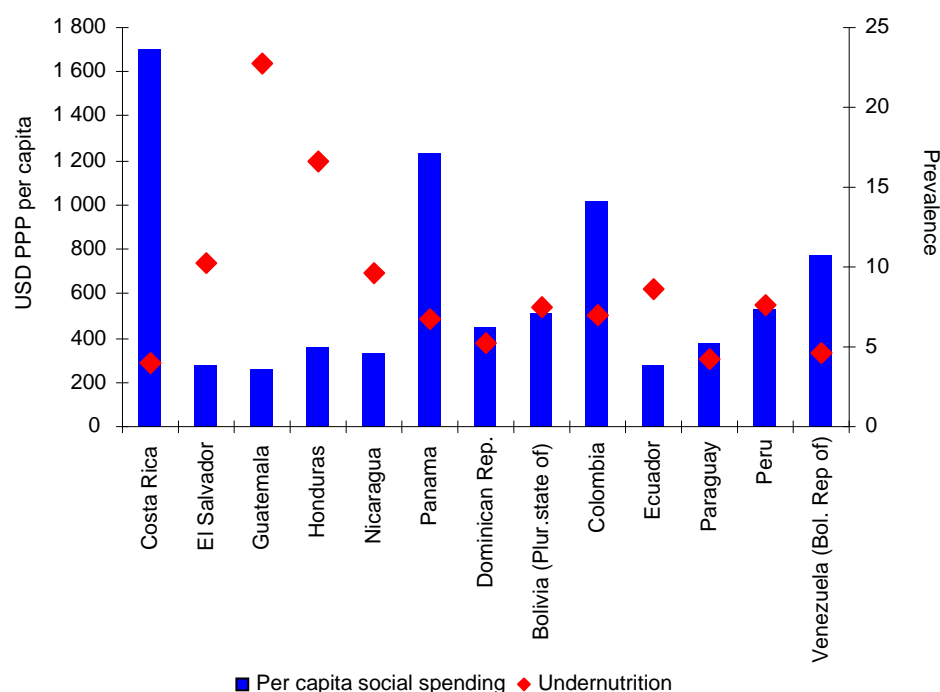
2.3. Social spending/investment

Information on national income used to fund social policy in the region's countries has major deficiencies in terms of precision and exhaustiveness. This is due to the fact that countries employ significantly different definitions, and because coverage is in some cases national, while in others it applies only to the central government. Moreover, there are variances in the way international cooperation contributions are treated, with the accounts of some countries not reflecting such funds.

Despite this, the region has succeeded in providing relatively standardized periodic information on social spending/investment. Thus, we know that funds devoted to social policy and its associated programmes and projects have changed significantly in recent decades. Since the beginning of the 1990s, there has been a progressive effort to increase public social spending. According to the available figures, the region as a whole has increased the macroeconomic priority of public social spending, from 12.8% of the region's GDP in 1990-1991 to 15.1% for 2002-2003.⁶ This, in turn, has meant a relatively steady increase in per capita social spending over this period, from US\$ 440 (at 2000 prices) to US\$ 610.

⁶ ECLAC is currently in the process of updating the figures, and information up to at least 2005 is expected to be available soon.

FIGURE 5
LATIN AMERICA (13 COUNTRIES): UNDERWEIGHT AND PER
CAPITA PUBLIC SOCIAL SPENDING, 2003-2005



Source: ECLAC, Social spending database and most recent nutritional survey available in each country.

Progress has been uneven from country to country. For example, eight of the region's countries spent less than 10% of GDP on social spending, while six spent over 15% in social sectors in 2002-2003. In terms of per capita spending, the figures range from US\$ 68 to US\$ 1,283.

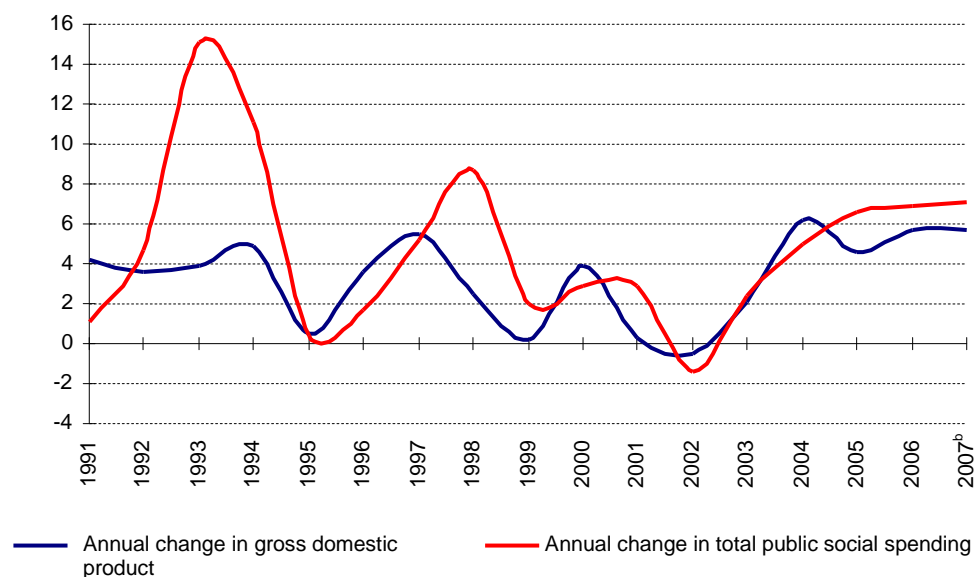
The Central American and South American countries with the greatest incidence of undernutrition spend an average of US\$ 298 per capita on social spending (US\$ 625 in purchasing power parity). Those that spend most have the lowest incidences of undernutrition.

Most of the social spending for interventions falls in the categories of social security and social assistance, education and health (7.0%, 4.1% and 2.9% of GDP, respectively). Nutrition programmes are usually considered part of the health and/or education sector, thus making it impossible to reliably determine the proportion of social spending they represent, although estimates suggest that the figure is not over 1%.

ECLAC studies analysing the ability of these resources to reduce overall socioeconomic vulnerability and, thus, to have a positive impact on nutrition, indicate that social anti-poverty programmes, especially those employing incentives (known as conditional transfers), are the most progressive. Many programmes, however, have persistent targeting problems, and even when they contribute significantly to food security, it is difficult to achieve significant changes in nutritional epidemiology unless the programmes are a part of more comprehensive policies.

While social policy has important redistributive effects, in that it doubles the income of the poorest population, public social spending (in the form of social security) is actually greater for higher-income groups.

FIGURE 6
LATIN AMERICA AND THE CARIBBEAN (21 COUNTRIES^a): ANNUAL CHANGE IN TOTAL PUBLIC SOCIAL SPENDING AND IN GROSS DOMESTIC PRODUCT
(In percentages)



Source: ECLAC, Social spending database and national accounts.

^a Weighted average for the countries.

^b Provisional data.

Finally, one characteristic of the allocation of social funds is its clear procyclical nature, which not only limits the ability to fund policies designed to reduce vulnerability, but also increases vulnerability in periods of crisis such as the current one.

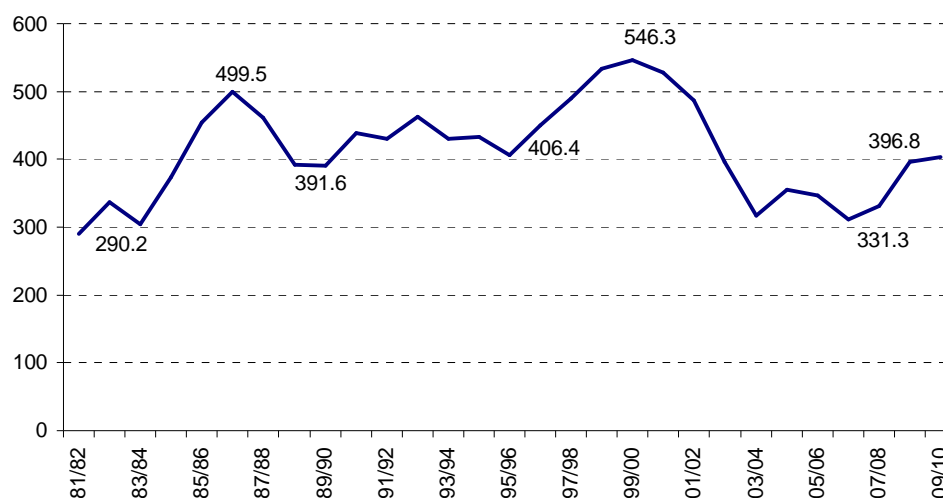
3. The food and nutrition situation in Latin America and the Caribbean

3.1. Agricultural production and supply

The last few years have seen a significant change in world grain production. This has affected amounts available for consumption, and has correspondingly played a role in food price fluctuations in world markets. According to recent production forecasts, 2008-2009 harvests are expected to significantly improve the global supply-demand balance for grains. Even assuming that use increases more than expected, world grain reserves could increase by 8%.

For the Central American and Caribbean subregion, FAO projects total **grain** production of 41.5 million tons in 2008. This is roughly 800,000 tons more than the previous year, and above the average for the last five years. The principal factors that could account for the change are the widespread use of improved seed varieties and more dense planting methods – measures that increase the yield. Furthermore, increased rainfall is a factor in some countries, such as Mexico, where monsoon rains are normal to above normal, keeping soil humidity levels favourable in all of the country's principal producing areas.

FIGURE 7
CHANGE IN WORLD GRAIN STOCKS (WHEAT, MAIZE AND RICE)
(Millions of tons, 1981/1982-2009/201^b)



Sources: Economic Commission for Latin America and the Caribbean (ECLAC), based on United States Department of Agriculture (USDA). Grain: World Markets and Trade, April 2008.

^a The figure for the trade year represents the sum of the world wheat, maize and rice stocks for the year in question. Note that the trade year varies by country and product. For wheat, the most common year used is July-June, for maize October-September, and for rice the calendar year. A complete list of each country's and product's trade years is available at the USDA website: <http://www.fas.usda.gov/psdonline/psdAvailability.aspx>. The 2009-2010 data are based on estimates of stocks for those years.

Estimates on **wheat** call for an 11% increase in world production in 2008, with a volume much greater than the average for the last five years. In South America, the drought affecting some producing areas in Argentina is expected to impact production on the order of 25% compared with the previous year. On the other hand, Brazil's conditions and outlook remain favourable.

An overall increase in **rice** reserves is expected to occur for the second consecutive year. In South America, the outlook for production varies. The harvest will soon begin in Brazil, and the country is expected to produce more than in 2008. In Argentina, despite the drought affecting crops, the area planted in rice is 10% greater than in 2008. "World **rice** utilization (mainly food consumption) is expected to increase again in the current year, rising by 2.4 percent. On a per capita basis, average rice consumption as food is forecast to rise to 57.3 kg in 2008/09, after an estimated 56.9 kg in the past two years" (FAO, 2009).

"FAO's latest forecast for world production of coarse grains in 2008 has been revised upward by almost 30 million tons since July and now stands at a new record level of 1,106 million tons, 2.6 percent above the previous record set last year. The increase over the past two months is mostly attributed to improved yield prospects for the maize crop in the United States as generally favourable weather lasted throughout the season, as well as better results from the coarse grain harvests throughout Europe. Record high crops have already been gathered in South America, where planting areas increased again for this year's crop and ideal weather conditions favoured above-average yields" (FAO, 2008). World stocks of secondary grains are expected to increase late in the 2008-2009 period, to 15% above their initial levels for the period (FAO, 2009).

World **maize** production for 2008 is provisionally estimated to be around 3.5 million tons, or approximately 10% more than in 2007, as a result of various government programmes in the

region to support local production, in response to the rise in international food prices. A case in point is Brazil's 2008 maize production, which was 13% higher than the record level it reached in 2007, and 33% above the average for the last five years.

3.2. Availability of food

Global advances in production have significantly increased food availability, and this has been accompanied by an increase in real consumption of food energy and of macro- and micronutrients in all regions. In Latin America and the Caribbean, countries have seen stable growth, reaching over 40% of the minimum energy requirement established by FAO.

In the last 40 years, practically all of the region's countries have had sufficient food. The only exception is Haiti in the early 1990s (figure 8). Nevertheless, the distribution of the supply in the population is uneven, making unequal access a characteristic of the region.

According to FAO food security statistics (FAOSTAT), most of the food energy in the region's countries during the 2003-2005 period was provided by plants, with the major portion provided in the diet by grains. There is considerable variation in this, since grains represent 49% of food energy in Haiti, but only 29% in the Dominican Republic and Paraguay⁷.

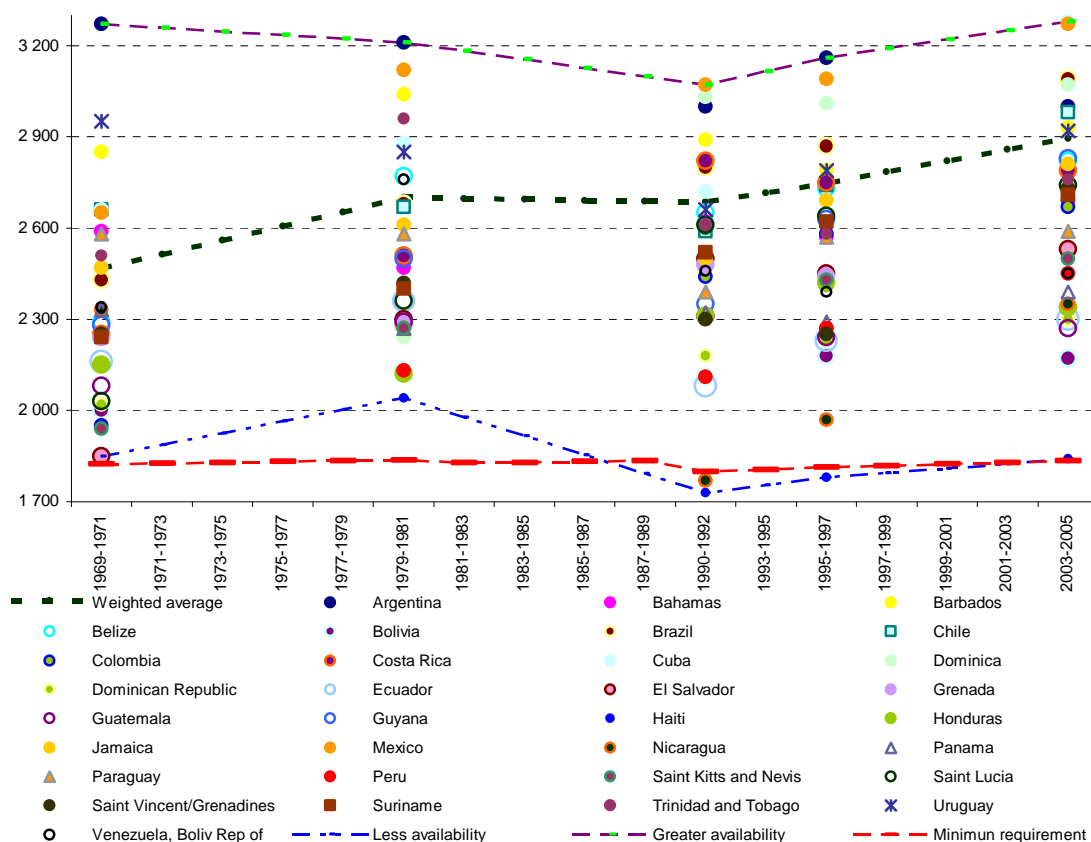
3.3. Food insecurity

In "The State of Food Insecurity in the World, 2008", FAO states that close to 75 million individuals worldwide joined the category of those who lack access to the minimum nutritional requirements (i.e., are undernourished) between the 2003-2005 period and 2007, thus representing an increase in the number of persons suffering from "chronic hunger". It was recently estimated that close to 1.02 billion individuals suffer from undernourishment, indicating that the situation has worsened in the last ten years, and particularly with the crisis that began in 2008 (FAO 2009c).

Although food production in Latin America and the Caribbean far exceeds the population's needs, food security has fluctuated erratically. After fairly constant advances, some 52 million people (9.9%) lacked access to minimum caloric requirements in 2001-2003. This dropped to 45 million in 2003-2005 (8%), but, as will be seen below, the number is rising significantly due to the crisis (FAO 2008a). Among the factors behind this fluctuation is an increase in aggregate demand, accompanied by persistent inequality, repeated natural disasters (principally in Central America and the Caribbean) and the impact of social and economic policy in some Central and South American countries.

⁷ For more detail, see Annex 3.

FIGURE 8
LATIN AMERICA AND THE CARIBBEAN (32 COUNTRIES): AVAILABILITY OF FOOD
(kilocalories/person/day)^a



Source: Authors, based on FAO Balance Sheets.

^a The regional average is weighted according to the countries' populations.

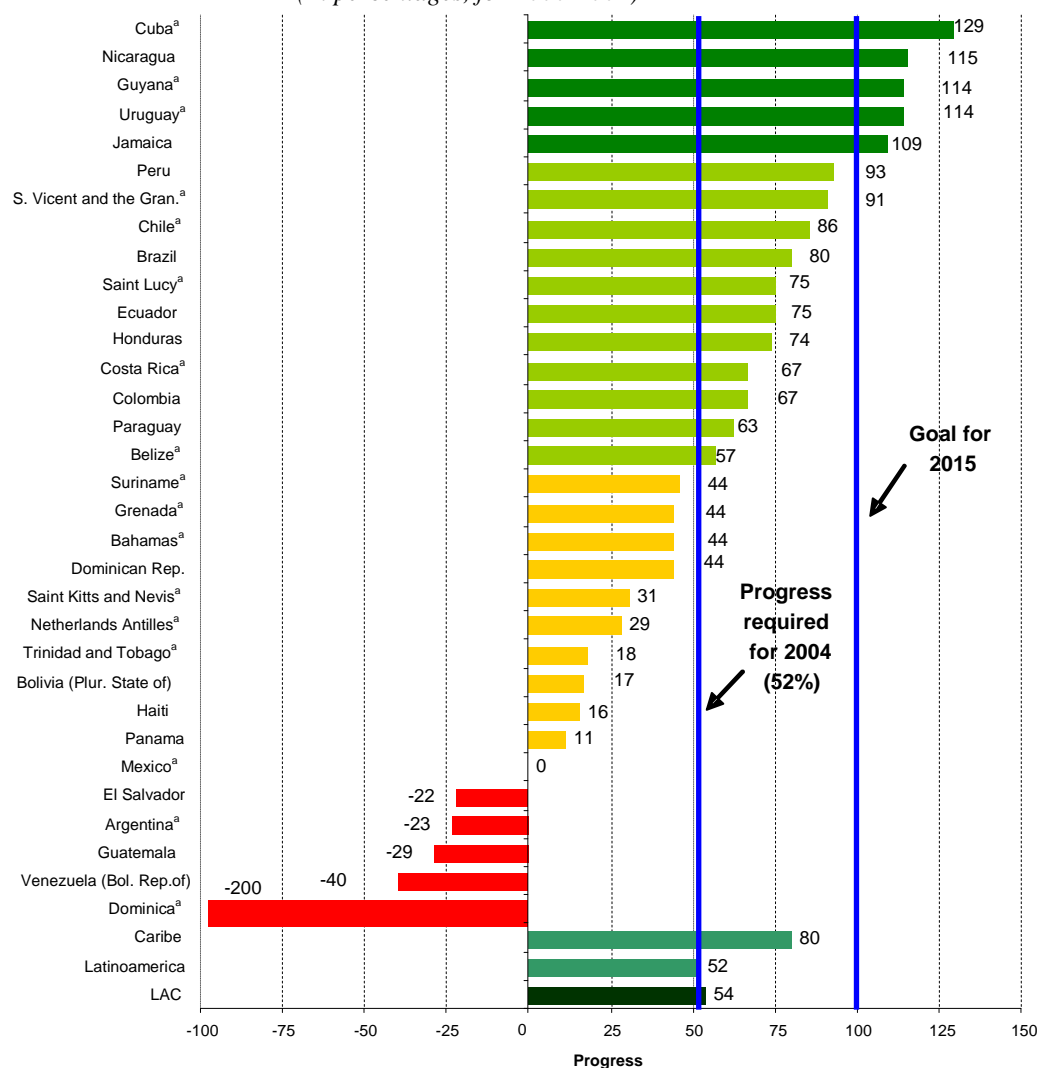
Based on the latest FAO estimates of undernourishment, progress in the region appeared to maintain a pace slightly better than expected up until 2004, although the totals disguise important differences between the countries. As figure 7 shows, 5 of 32 countries are exceeding even the 2015 goal, while 11 are advancing at a pace that will allow them to attain it without major problems. Another 10 countries have progressed at a pace below that required to reach the goal, and six have either failed to advance at all or have lost ground, making it unlikely that they will reach the goal.

If these results are assessed in relation to the goal “to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015” proposed at the 1996 World Food Summit (FAO, 2001), one may conclude that there has been only 22% progress towards the goal, with only Jamaica, Guyana and Nicaragua having kept pace with the goal (FAO, 2008c).

Notably, the progress cited here does not bear upon the prevalence of undernourishment in the countries, inasmuch as some countries have made major progress but continue to have high indices of undernourishment, and vice versa. Thus, Haiti stands out among the countries with the highest rates of undernourishment (58%), followed at a considerable distance by Bolivia, Nicaragua and the Dominican Republic (22%), with the first two of these showing very little progress.

Nicaragua, on the other hand, though its rate of undernourishment remains high, appears to be on track to exceed the 2015 goal.

FIGURE 9
LATIN AMERICA AND THE CARIBBEAN (32 COUNTRIES): PROGRESS
TOWARDS THE GOAL OF REDUCING UNDERNOURISHMENT
(In percentages, for 2000-2002)



Source: Authors, based on FAO, The State of Food Insecurity in the World, 2008.

^a Estimated, with data to 2001-2003.

3.4. Access to land and water

History looms large in the region's patterns of land ownership. From the colonial plantation era to the present, the region's land has been concentrated in the hands of a small proportion of the

population. However, it is not easy today to provide reliable analyses of land holding, due to a lack of up-to-date information⁸, incomplete records and a high degree of informality.

While exact figures are not available, the region's social realities suggest that unequal access is a function of both socioeconomic level and ethnicity, with indigenous people and those of African descent having least access to land ownership.

This situation not only holds true for de facto ownership, but also (to an even greater degree) for legal ownership. Records include only a limited number of land titles, and such titles are required to be in the name of only one person. This situation has the greatest effect on the poorest segments of the population.

Figure 10 provides an overview of the region's unequal land distribution. The Gini coefficients indicate a very asymmetrical pattern, in which ownership is highly concentrated, with values between 0.55 and 0.93. This figure is over 0.6 in 85% of the countries, including the region's largest economies, e.g., Brazil and Argentina, where values are above 0.7. Even Canada and the United States have Gini values on the order of 0.7.

Gender inequality is another factor in land ownership. The admittedly scant data available in the region suggest that only between 11% and 27% of land titles are in women's names. This is a major problem for food and nutrition security, given that many families are not legally constituted, and many others are single parent families, with women as heads of household.

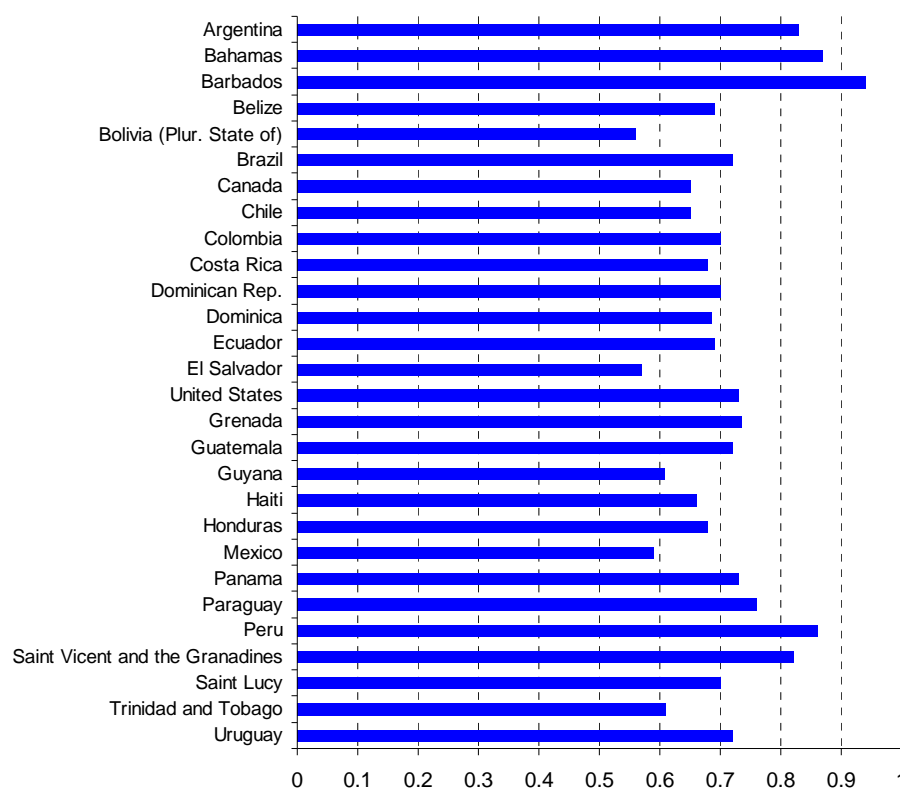
Moreover, in the unequal access to land, quality, as well as quantity, is a problem. Not only does the most vulnerable population own less land, but the land to which this population has access is generally less productive, and in many cases, an essential ingredient –namely, water– is lacking.

Among the important issues relating to efforts to ensure access to land in the region is the growing interest in establishing plantations for biofuels production. This has generated strong pressure to form large property holdings, a trend driven by the high price of food and by changes in fuel prices. At the same time, strong demand from China and India, as well as from some other countries, has translated into increasing metals prices. This has led both oil companies and mining companies to stake out major holdings in the region, which is rich in mineral resources (Pinto and Carvajal, 2008), though this trend has reversed itself since the last quarter of 2008.

An additional factor –water rights– goes hand in hand with the problems facing the region's small farmers. Given the scarcity of water resources around the world, plus the accelerating increase in the amount of land used by large agricultural enterprises, local policy on water access must be revised, in order to encourage the development of small-scale agriculture. Moreover, accelerated mining exploration, mainly in South America, is increasing the need for water in the region. As a result, if agricultural productivity is to improve, efficient water management and water use systems for available resources must be implemented. According to the latest State of Food Insecurity in the World report (FAO, 2008a), the speed with which water is being used exceeds the rate at which it is being renewed in approximately 25% of the world's irrigation systems. "Open access or loose property rights on water resources and irrigation systems lead to the overexploitation of aquifers and unsustainable irrigation practices that exhaust, contaminate or at the very least increase irrigation costs. Land degradation is also an outcome of inefficient use of water resources and inadequate irrigation management practices, resulting in productivity reductions and increasing losses of cropland. Small-scale farmers are most affected by these practices as they lack the capacity to secure their rights to water as well as the resources to invest in more expensive but more effective pumping tools" (FAO, 2008a).

⁸ It is anticipated that the Agricultural Census planned by FAO for 2010 will at least partially remedy this information gap.

FIGURE 10
THE AMERICAS (28 COUNTRIES): GINI COEFFICIENTS FOR LAND HOLDING



Source: FAO, 2006, World Census of Agriculture, 1990; Jazairy and others, 1992.

4. Nutritional status and eating practices

4.1. Undernutrition

According to World Health Organization (WHO) estimates, in developing countries with high mortality rates, child undernutrition is the cause of 15% of the years lost to death or disability. The impact is even greater (by approximately 10%) if one takes into account the effects of deficiencies in certain specific nutrients, such as iron, vitamin A and zinc. In other words, one out of every four years lost prematurely in these countries is associated with nutritional deficits.

The Pan American Health Organization estimates that each year approximately half a million children under age five die in the region. Approximately 27% of these deaths are deemed to be due to infectious diseases and nutritional disorders—representing over 150,000 annual deaths of children under five in the Americas. Respiratory illnesses (principally pneumonia) and diarrhoea are the main diseases responsible for these deaths.

The 1990-2006 period saw a reduction in the child mortality rate in the region (from 55 to 27 per 1,000 live births) (UNICEF, 2007). The region thus led the world in progress towards achieving this Millennium Development Goal (MDG).

“As regards the prevalence of underweight children, or global malnutrition,⁹ which is the follow-up indicator for the hunger-related Millennium Goals, the region did show improvements between the 1988-1991 and 2000-2002 periods. However, 4.1 million children suffer from it, and prevalence is high in many countries, particularly Guatemala, Saint Vincent and the Grenadines, Haiti, Honduras, Guyana, Suriname, Ecuador and El Salvador, with rates of between 10% and 23%. The largest numbers of cases are to be found in Brazil, Mexico, Guatemala, Colombia, Haiti and Peru, which account for 73% of the total.” (United Nations, 2008).

Despite the priority that has been given to the Millennium Development Goals and indicators, information on the prevalence of undernutrition and on related trends remain insufficient to allow for further substantive and geographic analysis¹⁰. There is a basis, however, for estimating that approximately 7% of the region’s children under the age of five suffer from underweight (weight for age < -2 SD under the NCHS standard). The figure varies enormously from country to country, in part because of differing levels of development, but also as a result of different policies and programmes to prevent and treat undernutrition.

In mid-2006, WHO published new child growth standards based on a rigorous study in six countries on four continents. Among the many advantages that the new standards enjoy over the old ones (NCHS/WHO) is their international nature, the fact that they are based on observations of children who have been breastfed in accordance with WHO recommendations, and the fact that they are based on more frequent measurements that facilitate better estimates of growth rates. So far, Uruguay and Chile have officially adopted the new standards, and many other countries in the region are in the process of incorporating them in their nutritional assessment standards.

The average weight and height figures, and the cut-off points defining deficiencies and excesses, are different from those in the current NCHS/WHO standards. The new standards show children as thinner, especially between the ages of 1 and 3, and slightly taller, than would be the case using the old standards. Thus, the new standards show less weight-for-age undernutrition and more chronic undernutrition (height for age). A Chilean study of a population of 20,000 children showed a 38% difference in the estimated prevalence of underweight (2.1% vs. 1.3%). It is important to bear these differences in mind when interpreting trends in child undernutrition in the future. In view of these differences, in order to fully understand the phenomenon it will be most helpful if, for the time being, both standards are referred to.

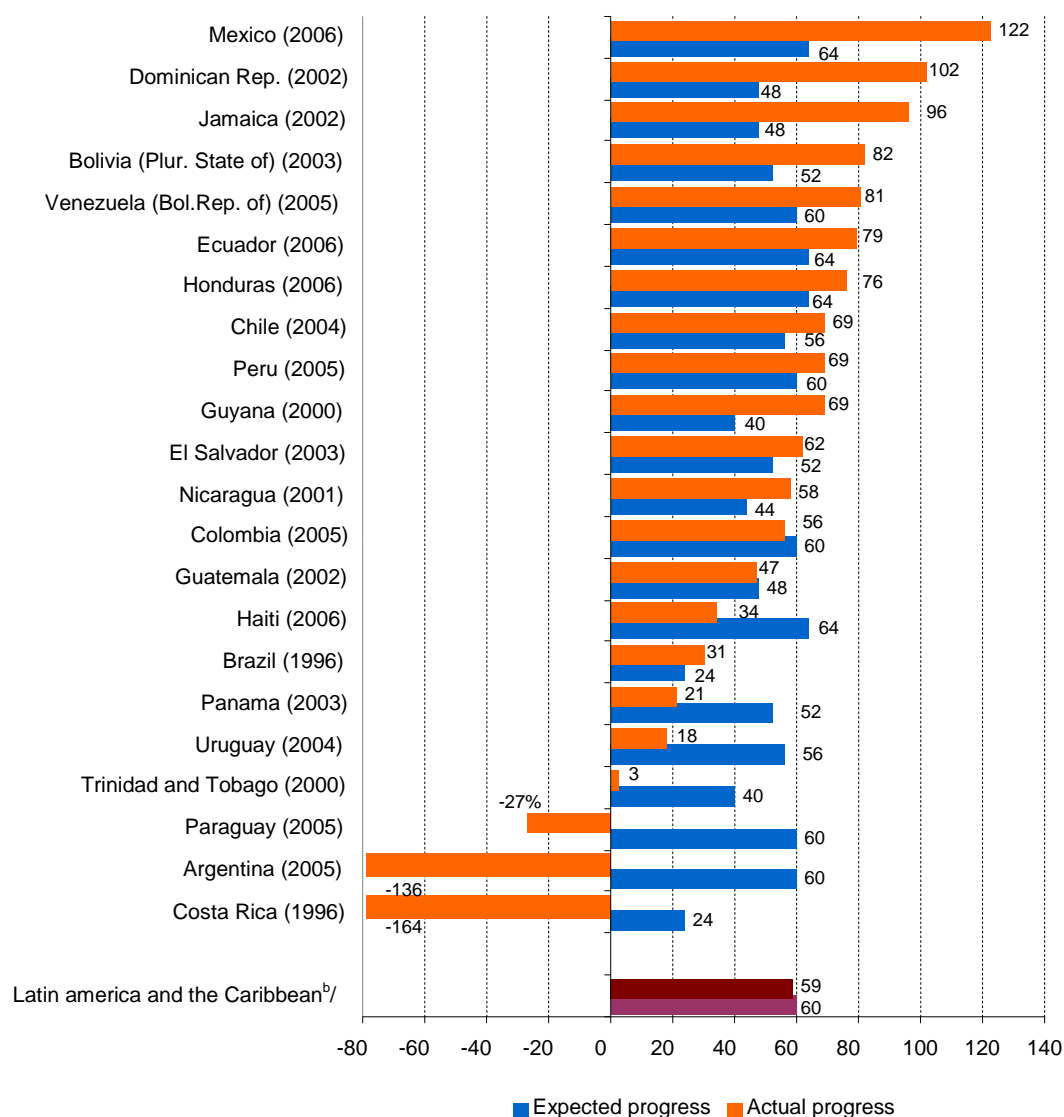
A similar analysis of chronic undernutrition at the regional level (height for age < - 2 SD), which is the best indicator of living conditions during the most critical phase of growth, shows a more than doubling of the prevalence (with 15.4% being the regional average). Again, there is wide variation among the countries, with figures differing by as much as a factor of 30. There is also wide variation within countries, since undernutrition has the greatest impact on the most socially disadvantaged groups (poor or indigent families, children of illiterate mothers, rural populations, indigenous groups and people of African descent). Thus, the nutritional profile of the Latin American population reflects the great inequalities of income distribution and access to social programmes in the region. According to the Social Panorama of Latin America and the Caribbean, 2008, the households of the region’s poorest 40% of the income distribution receive 15% of the region’s income. It states that “This indicator is lowest in the Plurinational State of Bolivia, the Dominican Republic and Honduras, never exceeding 11%. Only in Uruguay does the share of this

⁹ Monitoring indicator for the Millennium Development Goal related to hunger.

¹⁰ The principal sources of information are demographic and health surveys, which are generally carried out every 4 to 5 years with limited population samples. Since the data are not always obtained in populations with similar characteristics, and sometimes employ different methodologies, it can be difficult to draw conclusions. Most of the United Nations reports (ECLAC, UNICEF, UNDP, WFP, PAHO) show that the most recent information available for many of the region’s countries is five years old or older.

group surpass 20%.” A comparison between the income of the wealthiest decile and the four poorest deciles shows that the former receives 17 times the income of the latter.

FIGURE 11
LATIN AMERICA AND THE CARIBBEAN (22 COUNTRIES): PROGRESS TOWARDS
THE UNDERWEIGHT-REDUCTION GOAL IN CHILDREN UNDER FIVE
YEARS OF AGE, BETWEEN 1990 AND 1996-2006^a
(Progress towards goal, as percentages)

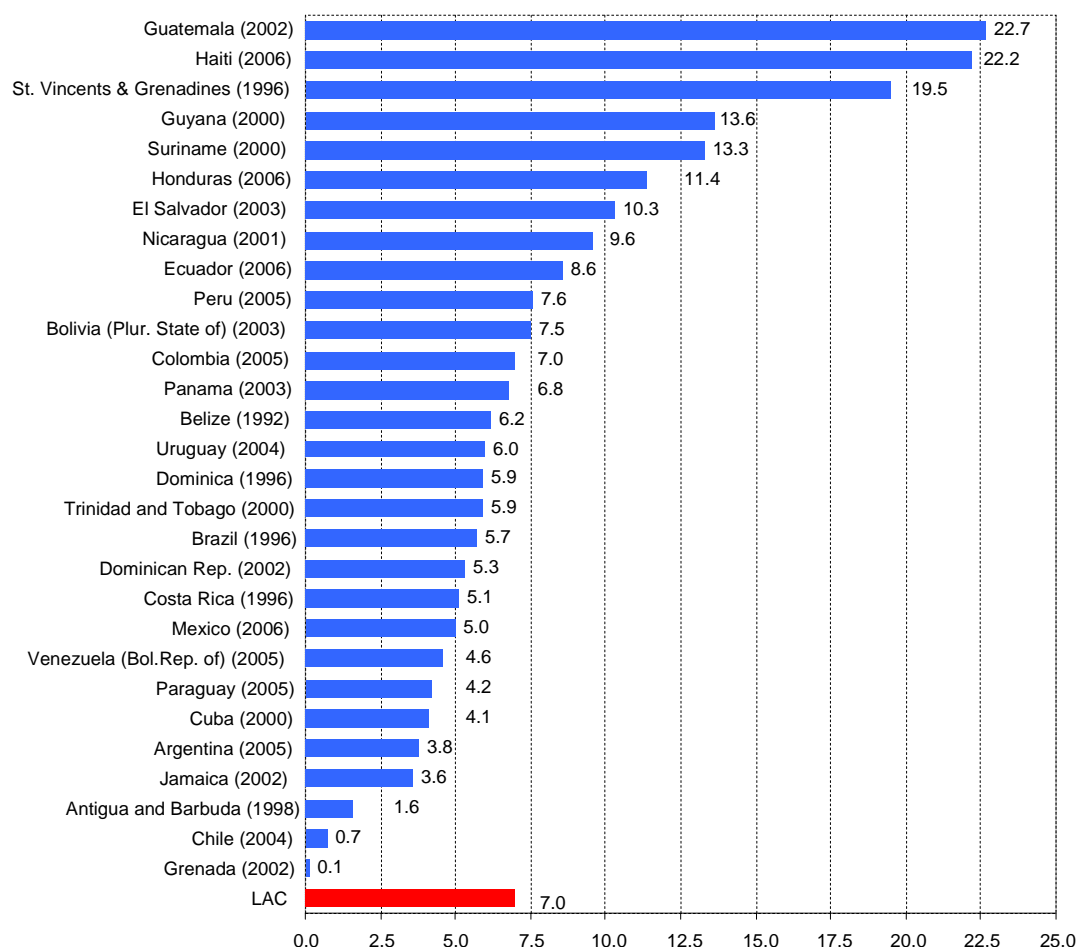


Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on figures from the Social Indicators and Statistics Database (BADEINSO) (www.eclac.cl/badeinso/Badeinso.asp); United Nations Millennium Indicators Database (http://millenniumindicators.un.org/unsd/mi/mi_goals.asp); Opinion Research Corporation (ORC), Macro-Demographic and Health Surveys (DHS) (www.measuredhs.com); World Bank, World Development Indicators (WDI) (www.worldbank.org/data/onlinebases/onlinebases.html); and United Nations Children's Fund (UNICEF), Global Database on Child Malnutrition (www.childinfo.org/eddb/malnutrition/index.htm).

^a Based on most recent undernutrition figure available from each country for the 1996-2006 period.

^b Weighted average of national prevalence figures.

FIGURE 12
LATIN AMERICA AND THE CARIBBEAN (29 COUNTRIES): PREVALENCE
OF LOW WEIGHT FOR AGE (UNDERWEIGHT) IN CHILDREN
UNDER FIVE YEARS OF AGE, 1996-2006
(In percentages)

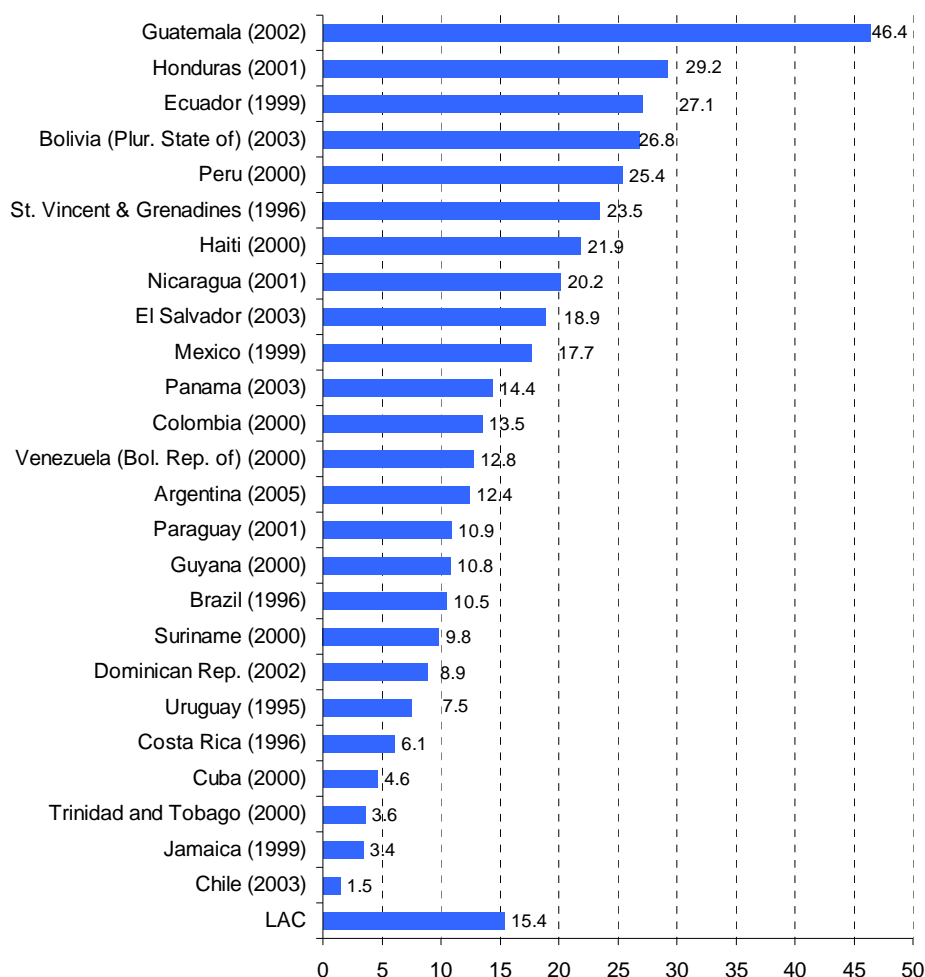


Source: ECLAC, based on data from World Bank, United Nations Department of Economic and Social Affairs (UN-DESA), Macro-Demographic and Health Survey (DHS), UNICEF—Multiple Indicators Cluster Surveys, United Nations Standing Committee on Nutrition, and national reports.

The new WHO growth standards, whose cut-off points for low height are stricter than the standards currently in use, will mean an estimated increase on the order of 25% to 30% in the prevalence of chronic undernutrition. This should be borne in mind in assessing future trends.

Low birth weight –a recognized risk factor for undernutrition and mortality in the early stages of life– has a prevalence rate of 9%. The most critical instances of low birth weight occur in Honduras (14%), Ecuador (16%), Haiti (21%) and Trinidad and Tobago (23%). Rates in the latter two countries even exceed those observed in sub-Saharan Africa. By contrast, the low levels found in Chile, Cuba and Belize (6%) are below those found in industrialized countries.

FIGURE 13
LATIN AMERICA AND THE CARIBBEAN (25 COUNTRIES): PREVALENCE
OF LOW HEIGHT FOR AGE (CHRONIC UNDERNUTRITION)
IN CHILDREN UNDER FIVE, 1996-2005
(In percentages)



Source: ECLAC, based on data from World Bank, United Nations Department of Economic and Social Affairs (UN-DESA), Macro-Demographic and Health Survey (DHS), UNICEF— Multiple Indicators Cluster Surveys, United Nations Standing Committee on Nutrition, and national reports.

4.2. Consequences of undernutrition

As mentioned in the conceptual framework section above, the long-term consequences of undernutrition include irreversible harm to physical growth and development, reduced intellectual and productive capacity, and a poorer quality of life.

The region's undernutrition in the last few decades has meant the loss of 1.7 million individuals –6% of the working age population (ages 15-64)– from death due to undernutrition in Central America and the Dominican Republic as of 2004. This represents 2.5 billion hours of work in one year, or 6.5% of the hours worked by the economically active population (EAP). During 2005, in the Andean countries and Paraguay, there were 3.6 million deaths (4.4% of the EAP) attributable to undernutrition in the working age population. This constitutes a work loss of 5.2

billion hours in 2005 (or 3.9% of the hours worked by the economically active population). In 2004 and 2005, in the 13 countries as a group, there was an annual loss of some 7.7 billion hours of work, or 4.7% of the hours worked by the EAP (Martínez and Fernández, 2007).

Thus, undernutrition in the last few decades has cost US\$ 10.536 billion in the Andean countries and Paraguay, and US\$ 6.659 billion in Central America and the Dominican Republic. A full 41% of the economic impact of undernutrition is due to the lower productivity associated with lower levels of school attendance, with 7% attributable to greater morbidity, while 1% is directly linked to education (increased repetition rates). The remaining 52% can be attributed to lower overall productivity due to greater mortality from a variety of causes. Thus, the greatest economic costs are for the countries' productive sectors, and take the form of lost human capital, in that the population fails to reach its productive potential. This does not even take into account the loss of potential investments attributable to the lack of human capital that occurs as a result of child undernutrition (Martínez, 2008).

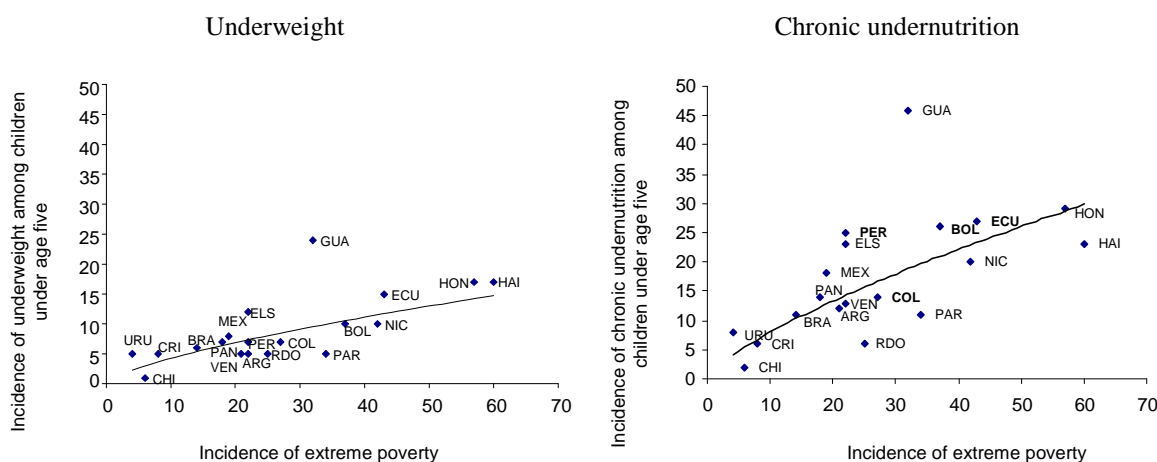
If the undernutrition problem is not addressed now, it will cause escalating costs in new generations of individuals. In fact, the present value of the costs that Central America is already incurring due to the undernutrition that children suffered in 2004 is US\$ 2.271 billion. This amount would be recouped in 11 years if the 2015 goal of eradicating hunger is attained. This means that the corresponding savings could be used to finance solutions to the problem (Martínez y Fernández, 2007).

In analysing how recent changes in the financial market can affect food security, and for purposes of designing preventive/mitigation measures, it is crucial to take these facts into account.

4.3. Extreme poverty and undernutrition

The Central American and Andean countries have the highest incidence of poverty and indigence, while at the same time registering the highest rates of child undernutrition. The following charts track this relationship and, for the 19 countries, show the close relationship between undernutrition and the social vulnerability resulting from low income. According to available data, between 40% and 50% of the variance in undernutrition is due to the incidence of extreme poverty or indigence.

FIGURE 14
LATIN AMERICA (19 COUNTRIES): RELATION BETWEEN EXTREME POVERTY
AND UNDERNUTRITION IN CHILDREN UNDER FIVE YEARS OF AGE



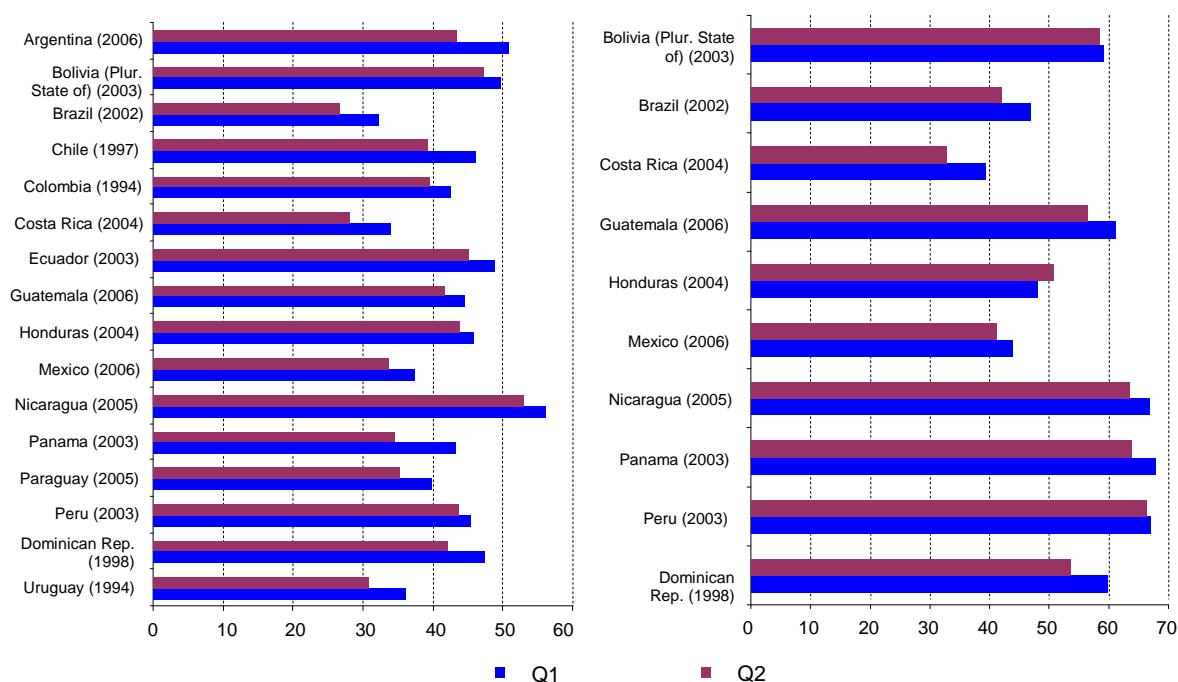
Sources: 1. "Extreme poverty", ECLAC, Social Panorama of Latin America, 2001-2002. 2. "Desnutrición Global", UNICEF, The State of the World's Children. 3. "Chronic Under-nourishment", WHO, "Is malnutrition declining?", De Onis, M. and others, 2001.

These estimates of extreme poverty are income-based. An income amount (or line) is defined for each country, below which income is insufficient for a household to purchase a basic food basket, consistent with the cultural context, to cover its minimum nutritional requirements. However, people need money not only for food, but also for other basic needs, which, given the limited resources, makes them nutritionally more vulnerable.

According to the latest household survey data, the average proportion of income spent on food ranges from 22.5% in Chile (comparable to the developed countries) to 57.5% in Haiti. These figures increase considerably in rural homes and in the first two income quintiles. For these quintiles, it is between 30% and 55% for urban areas, and between 40% and 65% for rural areas.

As the following charts show, up-to-date figures are not available for all of the countries, thus limiting the ability to draw any general conclusions. Given that this type of information is important in attempting to better understand the availability of monetary resources for food, periodic information from all of the countries remains a major challenge.

FIGURE 15
LATIN AMERICA: PERCENTAGE OF SPENDING FOR FOOD IN THE
FIRST TWO INCOME QUINTILES
Urban areas (16 countries) Rural areas (10 countries)



Source: ECLAC, based on family budget surveys.

In addition to problems due to the difficulty of meeting macro- and micronutrient requirements, it is important to consider the aggravating factor of high unemployment rates, which in 2007 averaged 8% in the region, ranging from 15.6% in the Dominican Republic to 11.6% in Colombia and 4.8% in Mexico (ECLAC, 2007).

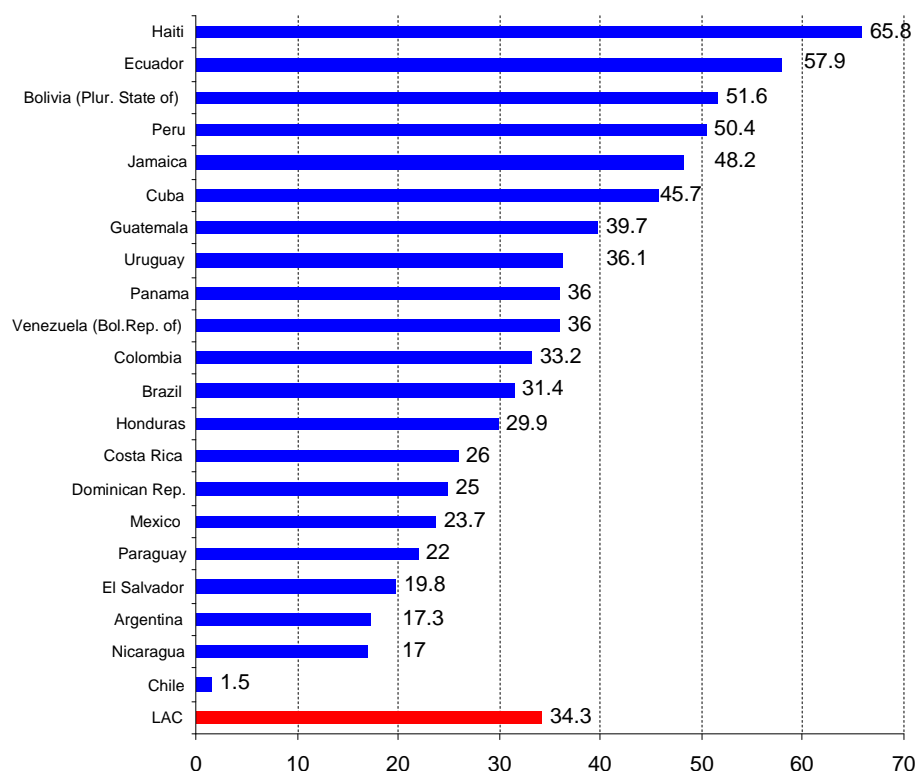
4.4. Micronutrient deficiencies

The nutritional problem is not limited to issues of weight and height; it also involves numerous micronutrients that affect immunity, intellectual development and mortality. The most frequent problem in the region is iron deficiency anaemia, which affects one out of three children under the age of five, and over 50% in some of the region's countries.

Deficiencies of micronutrients such as vitamin A and iodine also constitute risk factors for various diseases that produce both physical and mental problems. In various countries, this translates into public health problems, especially in rural areas and among more vulnerable populations (children, pregnant women, older adults, indigenous groups, and poor/indigent populations). While an estimated 85% of the region's households consumed iodized salt over the last few years, it is important to bring this figure up to 100%, given that this intervention is extremely cost effective.

It remains difficult to analyse risk factors for these micronutrients, given the lack of systematized and up-to-date information for the region and for the individual countries.

FIGURE 16
LATIN AMERICA AND THE CARIBBEAN (21 COUNTRIES): PREVALENCE OF ANEMIA
(HB<11G/DL) IN CHILDREN UNDER FIVE YEARS OF AGE
(In percentages)



Source: World Food Programme, based on data from WHO, 2006. Vitamin and Mineral Nutrition Information System (VMNIS) and most recent national surveys: Plurinational State of Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Paraguay and Bolivarian Republic of Venezuela.

4.5. Undernutrition and associated factors in the region

Along with the problems resulting from socioeconomic inequality and unequal access to food and basic health services, certain practices could be significantly affecting the prevalence of undernutrition in the countries. These include:

- (a) *Exclusive breastfeeding*: Low prevalence of exclusive breastfeeding (EBF), poor hygiene practices and insufficient/inadequate forms of complementary feeding are associated with higher risk of infectious disease, undernutrition and infant mortality.

The practice of EBF varies considerably throughout the region. It is most prevalent in Chile and Peru, where 63% and 64% (respectively) of children under the age of 6 months in the 2000-2006 period were exclusively breastfed (UNICEF, 2007). The Chilean case is interesting, in that the country succeeded, in a period of 12 years, in tripling the prevalence of exclusive breastfeeding up to the age of six months, through a concerted effort within the health sector, with broad participation on the part of primary care teams, scientific organisations, professional groups and universities. More generally, there has been strong participation among health care personnel, health counsellors, support groups, health promoters and maternity-home staff. These groups, along with the women themselves, have been the driving force in the success achieved.

- (b) *Complementary breastfeeding*: The highest rates at two years of age are in Haiti and Peru (87% and 81%, respectively). The challenge is not only to prolong breastfeeding to two years, but also to ensure that complementary feeding is adequate in quantity and of sufficiently good quality in terms of health and nutrition.
- (c) *Infectious diseases and nutritional disorders*: During the first five years of life, infectious diseases and nutritional disorders remain the primary reason for loss of health. Thus, they are decisive for children's healthy growth and development from birth to five years of age.

The majority of the infectious diseases that continue to affect children's health can be prevented or treated effectively through simple, low-cost interventions. Nevertheless, thousands of families still do not have access to such measures, or lack the knowledge and practices needed to apply them at home and in the community.

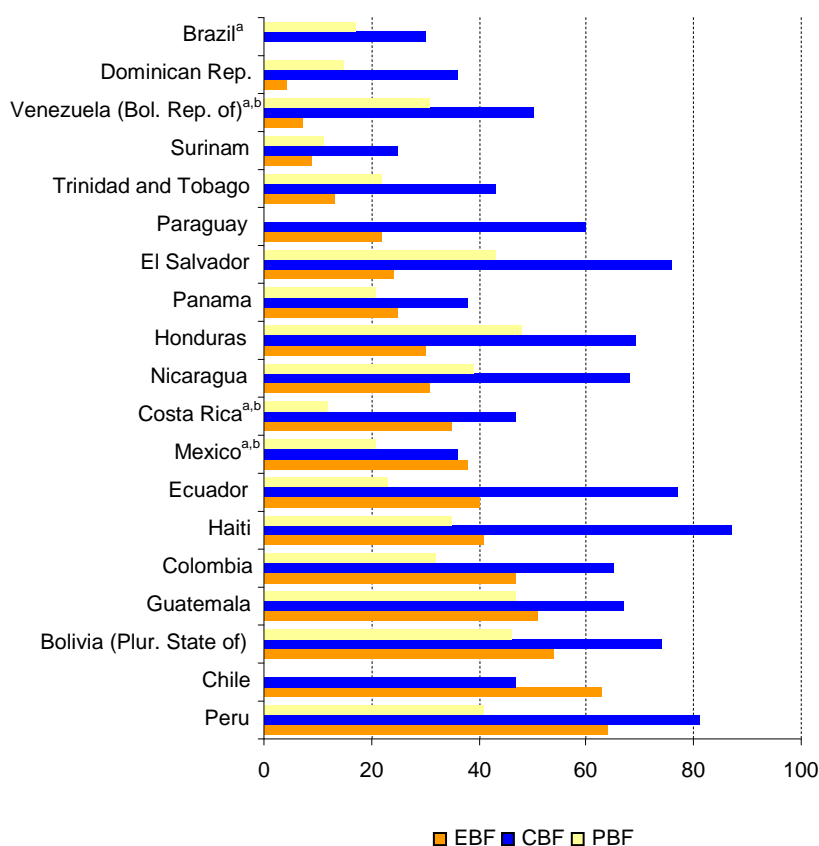
There is a very high incidence of diarrhoea in countries with poor environmental sanitation conditions, where, according to demographic and health surveys, at least 20% of children under the age of five had experienced at least one episode of diarrhoea in the last three months. The problem of diarrhoea, in combination with undernutrition, creates a vicious circle, since diarrhoea is associated with loss of appetite, vomiting, and loss of nutrients – a situation in which the limited food intake over a period of days results in significant weight loss. Undernutrition, in turn, lowers immunity, making children more susceptible to future infection. Some research suggests that if the habit of hand washing were more widespread, one million deaths could be prevented each year worldwide. Children under age five, and especially under the age of one, are most at risk from this disease.

There is a high correlation between the incidence of respiratory infection and families' socioeconomic conditions – quality of housing, clothing, heating, levels of environmental pollution, etc.

- (d) *Prenatal coverage*: Another important variable, which reflects access to primary care, is coverage of prenatal medical checkups for pregnant women. While coverage in a number of countries is over 90%, in others the figure is below 80%—in some cases as low as 50%. Coverage is not the only important factor, however. Also figuring in the equation are whether the first check-up occurs early (during the first trimester of pregnancy) and the frequency and number of checkups during the pregnancy. Often

these variables are weak points (very late checkups and a smaller number than called for by the country's standards), thus significantly reducing the benefits of the checkups. In addition, most of the countries lack clear criteria for evaluating the nutritional state of the expectant mother. This makes it difficult to provide the nutritional education needed to encourage adequate weight gain.

FIGURE 17
PREVALENCE OF BREASTFEEDING IN SOME OF THE REGION'S COUNTRIES, 2000-2006^c



Source: authors, based on UNICEF (2008).

EBF: exclusive breastfeeding (< 6 months); CBF: complementary breastfeeding (6-9 months); PBF: prolonged breastfeeding (20-23 months).

^a Data for other years, pertaining to periods other than those specified for the column, or relating to definitions varying from the norm or applying only to a part of the country.

^b Exclusive breastfeeding during at least 4 months.

^c Available data closest to the period indicated.

(e) *High fertility rates*: One negative consequence of a lack of access to prenatal checkups is that women participate less in family planning or responsible parenting programmes. This leads to relatively high birth and fertility rates. The region's average fertility rate is 3.3 children per woman of childbearing age, with countries ranging from 1.9 to 4.3 (UNICEF, 2008). This is important, because the number of children is closely associated with risk of undernutrition and mortality in the early stages of the life cycle.

- (f) *Specialized pre-partum care*: As with the proportion of women receiving prenatal care, the proportion receiving specialized care during labour varies widely. While the figure for the region as a whole is 88%, it ranges from only 44% in Guatemala to 67% in the Plurinational State of Bolivia and 100% in Chile (ECLAC, 2007). The lack of specialized care during labour again reflects a lack of access to basic health services. It is closely correlated with the maternal mortality rate, which is measured as the number of deaths associated with pregnancy and birth per 100,000 live births. The region's average maternal mortality rate is 130 per 100,000 live births, but the national figures vary from 16 to 670 per 100,000 live births, reflecting the enormous inequality of access to professional care or to establishments that provide greater protection for the mother (UNICEF, 2008).

TABLE 1
PROPORTION OF PREGNANT WOMEN RECEIVING CARE FROM TRAINED PERSONNEL
DURING PREGNANCY: DATA FOR MOST RECENT YEAR AVAILABLE

Country	Coverage (%)	Year
Cuba	100	2007
Dominica	100	2005
Brazil	97.4	2005
Chile	96.0	2006
Uruguay	94.9	2006
Mexico	94.2	2006
Colombia	93.5	2005
Costa Rica	91.7	2006
Honduras	91.7	2005
Peru	91.0	2006
Nicaragua	90.2	2006
Argentina	88.4	2005
Paraguay	85.3	2007
Haiti	84.5	2005
Panama	83.9	2007
Bolivia (Plurinational State of)	79.1	2003
Guatemala	70.4	2007
Ecuador	59.0	2006
El Salvador	51.9	2007
Venezuela (Bolivarian Republic of)	25.5	1997

Source: Authors, based on information from PAHO.

- (g) *Access to basic services*: Access to basic potable water and sanitation services are also fundamental elements in the effort to combat undernutrition, since they constitute a means of intervention in one of the principal causes of infectious and contagious diseases. Coverage is very low in some of the region's countries, primarily with respect to sanitation services (table 2). The figures vary considerably from region to region within the countries, and from rural to urban areas. Numerous studies show a close relationship between access to safe water and good sanitation systems, and the incidence of digestive tract infections—one of the principal causes of illness and death

in the first years of life. An experiment in Chile more than 30 years ago showed that improving a family's sanitation conditions has a greater impact on the children's nutritional state than does food distribution, because it facilitates better biological utilisation of food by the body. Boiling or chlorinating water and hand washing are interventions that have positive nutritional effects in communities with poor environmental sanitation conditions.

TABLE 2
POPULATION WITH ACCESS TO IMPROVED SOURCES OF POTABLE WATER
AND IMPROVED BASIC SANITATION FACILITIES

Country	Year	Potable water (%)	Basic sanitation (%)
Uruguay	2006	100	100
Costa Rica	2006	98	96
Dominica	2004	97	84
Argentina	2006	96	91
Chile	2006	95	94
Ecuador	2006	95	84
México	2006	95	81
Colombia	2006	93	78
Panama	2006	92	74
Cuba	2006	91	98
Brazil	2006	91	77
Bolivia (Plurinational State of)	2006	86	43
El Salvador	2006	84	86
Peru	2006	84	72
Honduras	2006	84	66
Venezuela (Bolivarian Republic of)	2004	83	68
Nicaragua	2006	79	48
Paraguay	2006	77	70
Guatemala	2002	75	47
Haiti	2006	58	19

Source: Authors, based on information available from PAHO.

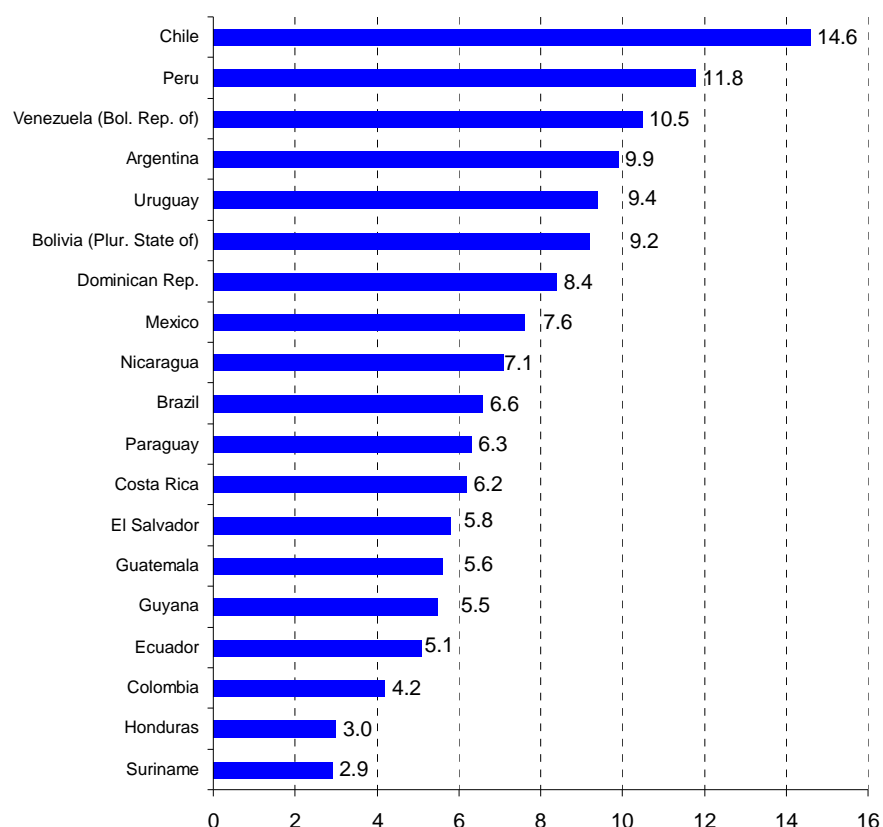
4.6. Childhood obesity

Along with the serious problem of child undernutrition, obesity is increasingly prevalent in all of the region's countries. Nearly 5% of children under age five are obese, and almost twice that number are overweight. Again, there are major differences between countries. However, the correlation with socioeconomic level is less clear. Some studies have found a direct relationship between the prevalence of low height and of obesity, suggesting that deficient early growth increases the risk of obesity later on. Obesity rates increase as the lifecycle proceeds, reaching rates of 20% and above in the adult population. Thus, it poses a significant problem in both age groups¹¹.

¹¹ For more detail, see Annex 4.

Concerns about obesity are related not only to its direct effects on health, but also to its association with major chronic diseases such as cardiovascular disease, diabetes, hypertension and certain types of cancer. Of the ten risk factors identified by WHO as key elements in the development of chronic diseases, five are closely related to nourishment and physical activity. Obesity can reduce life expectancy by as much as ten years, and constitutes a substantial economic burden for families and for society, thus representing one of the major public health challenges for the twenty-first century.

FIGURE 18
PREVALENCE OF OBESITY IN CHILDREN UNDER THE AGE OF FIVE
IN SELECTED LATIN AMERICAN COUNTRIES
(In percentages)



Source: Authors, based on government information and WHO (2008).

4.7. Nutritional programmes

Reducing child undernutrition is a prerequisite to achieving the Millennium Development Goals. However, there is limited information on which health and nutrition practices do most to further this effort. Despite the major investments countries have made to improve the nutritional status of the maternal and child populations, research on the real impact of such interventions has been insufficient to provide a basis for judging which are most cost effective, or what conditions are necessary for these interventions to be successful.

Only a small fraction of nutritional programmes include impact assessments. Those assessments that are made frequently suffer from methodological limitations. Some lack baseline information or have no control group. In other cases, the characteristics of the control group differ from those of the target group. There are also failures in designing and analysing variables, which lead to confusion in interpreting the results. These circumstances severely limit the possibility of identifying the best strategies and forms of intervention for preventing chronic child undernutrition.

The most common types of intervention in the region are the following:

(a) ***Care, and support for growth and development from gestation to age five:*** The purpose of this type of support is to promote women's health during pregnancy, birth and in the post-partum period, and to ensure that children reach their genetic potential for growth and development in their first years of life. This approach includes periodic checks on nutritional status, encouraging breastfeeding, providing nutritional education, detecting nutritional deficiencies in a timely manner, and responding effectively to any problems identified.

Check-ups during the first years of life (particularly the first two) should include a strong educational component, encouraging exclusive breastfeeding during the first 6 months and complementary breastfeeding thereafter, providing iron supplements, evaluating nutritional status, providing for early identification of low growth rates, strengthening nutritional education based on any deficiencies detected, treating diseases and concurrent infections, etc.

Almost all of the region's countries have significant weaknesses in this area, in the form of:

- i. Low coverage, especially in the most vulnerable areas;
- ii. delays in initiating check-ups;
- iii. low frequency of check-ups (number per beneficiary/year), especially for children between 12 and 24 months of age, when the incidence of undernutrition is greatest;
- iv. insufficient training of personnel, which affects methods of weighing and measuring, interpretation of data, and nutritional education for beneficiaries;
- v. lack of objective standards by which to evaluate mothers' nutritional state, which limits the possibility of taking effective measures to ensure adequate foetal weight gain;
- vi. limited availability of educational materials, both for health teams and for the general population; and
- vii. insufficiently developed monitoring and evaluation systems.

(b) ***Encouraging breastfeeding:*** This category includes all interventions that promote exclusive breastfeeding during the first six months of life, the prolongation of breastfeeding to two years of age and appropriate complementary nutrition for children, beginning at the age of six months. In general, these interventions take the form of initiatives by hospitals and health units that deal with mothers and children, as well as counselling and nutritional education at the health system's primary care centres. Also in this category are legal regulations (both commercial and labour-related) to support or facilitate breastfeeding.

Encouraging breastfeeding is an explicit priority for practically all of the region's health ministries. Nevertheless, statistics indicate that actual achievements in this area fall far short of the WHO recommendation of exclusive breastfeeding during the first six months of life. According to the UNICEF report, "State of the World's Children 2008", approximately 40% of children under six months old are exclusively breastfed. However, the national percentages range from 7% in the Bolivarian Republic of Venezuela to 64% in Peru. This information generally comes from demographic and health surveys, which simply track the prevalence of breastfeeding from birth to

six months. Thus, it is impossible to determine what percentage of children in these age groups meet the goal of being *exclusively* breastfed.

Experience in the different countries indicates that a wide range of elements play a role in the success of measures to encourage breastfeeding. These include:

- i. Accreditation of hospitals and health centres specializing in mother and child care. This is a way of promoting good practices in all behaviours related to encouraging breastfeeding, as well as other good childcare practices.
- ii. Providing educational materials for both health teams and mothers, designed for the specific characteristics of the target populations.
- iii. Creating a national commission to encourage breastfeeding, with participation by public institutions, scientific organisations, academic groups and NGOs. This is a necessary element for successful implementation of a universal, ongoing, long-term, rights-based policy.
- iv. More widespread use of commercial regulations governing marketing of breast milk substitutes, as well as greater enforcement.
- v. Modifying labour regulations to facilitate breastfeeding for working mothers by providing facilities needed for mothers to breastfeed for at least six months, and to eliminate disincentives for hiring women of reproductive age.
- vi. Greater emphasis on breastfeeding in health, education and social sciences programmes at the college and graduate level.
- vii. More training for health teams, and greater emphasis, in primary- and secondary-school curricula, on education for breastfeeding.
- viii. Appropriate monitoring and evaluation systems to assess trends and make decisions capable of improving the results of specific interventions.

One success story in the region is the Programme to Support Breastfeeding initiated by Chile's Ministry of Health. It consists of a National Commission to Support Breastfeeding (Comisión Nacional de Apoyo a la Lactancia Materna, or CONALMA) composed of a multidisciplinary team. One of the programme's objectives is to "position breastfeeding as the *first line of strategy to promote integral health for the population*". The results of CONALMA's efforts have been encouraging. The prevalence of exclusive breastfeeding at six months old, which was only 16.0% in 1993, had grown to 46.5% by 2005. This success is due to efforts such as those of regional committees to support breastfeeding, promotional activities, training of community overseers, enforcement of legal provisions, codes and standards related to breastfeeding, etc.¹²

Another successful initiative for promoting and maintaining breastfeeding in the region is Brazil's Human Milk Banks, the most complex programme of its type in the world, with 186 units. One of its principal features is its low operational cost, which is attributable to the use of alternative technologies, accompanied by rigorous technical procedures that guarantee the nutritional and health quality of the product provided¹³.

(c) Information, education and communication to encourage good nutritional practices: The purpose of this effort is to improve health and nutrition practices, especially in poor families. A

¹² For more information on Chile's National Complementary Feeding Programme, see the Health Ministry website: www.minsal.cl.

¹³ Information on the Brazil's "Bancos de Leche Humana de Brasil" is available online at: <http://www.fiocruz.br/redeblh/cgi/cgilua.exe/sys/start.htm?tpl=home>.

wide range of actions is possible, from individual and group counselling to talks, workshops, distribution of pamphlets and media campaigns. These interventions are usually not carried out in isolation, but rather as part of broader or more comprehensive strategies for mother and infant care, such as Guatemala's Programme to Reduce Chronic Undernutrition, Honduras's National Food and Nutrition Security Programme, the Plurinational State of Bolivia's Zero Undernutrition Programme and Chile's Strategy for Lifecycle Interventions, in which health counselling plays a central role¹⁴.

As in other lines of action, information on the impact of these interventions is limited, consisting simply of a record of activities carried out or numbers of participants. The emphasis of the interventions depends on the priorities set: early pregnancy care, birthing in healthcare facilities, periodic check-ups for children, good hygiene and food handling practices, good dietary practices in the home, breastfeeding, complementary feeding, and feeding of children who are ill.

Experience in the region indicates that the main limitations of this type of intervention are:

- i. Limited participation by communications experts in designing campaigns and educational materials;
- ii. insufficient training of health personnel in use of the materials, and in counselling and nutritional education techniques;
- iii. limited availability of educational support materials; and
- iv. budgetary constraints, limiting the use of media campaigns, which, although effective, are only sporadic.

(d) ***Micronutrient supplementation***: This refers to interventions that provide micronutrients as medical supplements, either taken on-site where provided, or in the home. Their purpose is to prevent and treat the principal micronutrient deficiencies in pregnant women and children under the age of five (most frequently vitamin A, iron, zinc, iodine and folic acid). Evaluations of effectiveness show positive, though variable, effects from providing supplements of each of these nutrients.

One interesting alternative is that of providing micronutrients through "Sprinkles", which is a powder in microcapsules. It is packaged in individual containers, and can be added to any type of food. It produces very little, if any, change in taste, smell, colour or texture. Various studies show a promising tendency for beneficiaries to continue the regime for this type of intervention, which has a positive effect on iron, zinc, vitamin C, vitamin A, iodine and folate deficiencies. It also has the great advantage of low production cost (US\$ 1.8 for 60 doses of iron supplement). This strategy is currently being implemented in the programmes of a number of countries, including Nicaragua's "Nutritional Sprinkles Supplements" programme and Mexico's "Opportunities" programme. The Mexican programme has been highly effective in reducing the prevalence of iron deficiency anaemia¹⁵.

Low-cost supplements designed to be used sporadically (e.g., megadoses of vitamin A) are most cost efficient if distributed universally, rather than by targeting high-risk families. All other supplements, however, have the greatest effect when targeted to biologically and socially vulnerable groups.

(e) ***Fortification of foods***: This category includes interventions to fortify foods that are consumed on a mass scale, in order to increase the intake of micronutrients that are lacking or are at risk of being present in insufficient quantity. The strategy calls for universal coverage rather than targeting. This has proved effective in Latin America for iodine, vitamin A, B-complex vitamins

¹⁴ Health counselling can be defined as "a helping relationship established between a professional and a user, designed to improve or promote the health of the user by enhancing his/her capacity to make decisions regarding his/her health and to take corresponding action". (<http://www.redsalud.gov.cl/archivos/alimentosynutricion/Verde.pdf>).

¹⁵ Sprinkles: Experience in Mexico. (http://nutrinet.org/component/option=com_remository/Itemid,110/func,startdown/id,1092/lang,es/).

and iron. Common examples are fortification of salt with iodine, of sugar with vitamin A, and of flour with folic acid, iron or other B-complex vitamins. In Chile, for example, where a great deal of bread is consumed across all age and socioeconomic brackets, the incidence of anaemia has been brought to very low levels, as a result of fortifying flour with iron over a period of more than 50 years. Another example is the fortification of wheat flour with folic acid in Chile since 2000 – an initiative that has produced a nearly 41% reduction in neural tube defects (Herpstrampf and others, 2003).

Most of the countries have significant problems in monitoring the population for these micronutrients, due to poor oversight systems. Qualitative monitoring is often used to ascertain the presence or absence of the nutrients, but not their concentrations, which can vary widely depending on the quantity that has been added, and the technology used to produce and homogenize the food.

(f) *Distribution of fortified food supplements.* If the basic objective is to prevent undernutrition in children under the age of three, fortified food supplements should be a high priority, as they have the greatest potential impact on this population. The goal is to increase intake of macro- and micronutrients in children at risk for nutritional deficiencies, although such measures also help create incentives for beneficiaries to go to health centres, where there are other benefits from health promotion activities. Little or no effect can be expected from this type of intervention if the food distribution is not accompanied by timely access to good health services, with an emphasis on nutritional education, growth monitoring and improved basic sanitation conditions. In order to achieve a major impact on child undernutrition, it is essential to bear in mind the following guidelines:

- i. These interventions should target pregnant and nursing women, along with highly vulnerable children under the age of three. Late interventions are of little or no use in repairing the damage caused by undernutrition.
- ii. They should take a preventive approach rather than a remedial one, so as to prevent irreversible effects from early undernutrition.
- iii. Receiving the food must be contingent on carrying out other important activities related to achieving the overall objective. Thus, the food supplements must become part of a comprehensive promotional and preventive programme.
- iv. Foods produced specifically for these interventions should have a high level of acceptability and tolerance, and should be foods that are actually consumed by the target group.

Nearly all of the region's countries have some type of food distribution programme, and most have major problems of execution, most frequently related to:

- i. Programme management (bidding, purchasing, storage and distribution of foods);
- ii. lack of information on the acceptability, consumption and dilution of the food provided, once it is received by the family group;
- iii. lack of comprehensive programmes that emphasize the importance of medical check-ups, nutritional evaluations, early detection of growth retardation and nutritional counselling;
- iv. targeting problems, including both inclusion and exclusion errors;
- v. limited monitoring and evaluation efforts; and
- vi. poor programme sustainability, due to political changes in individual countries.

One example of this type of programme that has been successful in combating undernutrition is Chile's National Supplementary Feeding Programme (Programa Nacional de

Alimentación Complementaria, or PNAC)¹⁶. Distribution is carried out at primary health care facilities, ensuring that receipt of the food is linked to the recipients' continuing to receive medical check-ups, leading to expanded use of these services. Thus, the food provided becomes an incentive, generating benefits beyond the nutritional ones.

(g) ***Conditional transfer programmes***: These are monetary transfers for poor families who commit themselves to certain activities, such as sending their children to school regularly, attending medical check-ups and improving their food intake. These are conceived as investments in human capital to overcome poverty in the long term by providing basic services to those living in poverty or with special needs. They are not designed primarily to produce a direct effect on children's and women's nutritional state, but rather are expected to have an indirect effect by increasing the coverage of health promotion and nutritional education activities among highly vulnerable families. These programmes are relatively new in Latin America and, unlike traditional programmes, generally include impact assessments based on experimental or quasi-experimental designs.

The Mexican "Opportunities" programme, in addition to providing money, provides fortified food supplements, nutritional education and health care – a situation that makes it difficult to distinguish the impact of its various components. Nicaragua's Social Protection Network programme consisted of monetary transfers to families, educational workshops and preventive health care. An impact assessment showed a reduction of chronic undernutrition on the order of 5% after two years. Qualitative data suggest that the transfers made it possible for beneficiaries to purchase more nutritious foods and increased their participation in educational workshops and medical check-ups.

The objectives of Colombia's "Families in Action" programme include improved food intake during the critical phase of growth and development, preventive healthcare activities, and a year-long monthly monetary subsidy. An assessment of impact on children receiving the benefits for a year showed a height increase of 0.5 centimetres in children under 12 months old. Significant differences were not detected in the other age groups, although diarrhoea was reported to be less prevalent. Visits to health services also became more frequent, and families spent more money on food and consumed more protein-rich foods.

¹⁶ For more information, see: www.minsal.cl → Protección de Salud → Alimentos y Nutrición → Programas Alimentarios Nacionales.

TABLE 3
CONDITIONAL TRANSFER PROGRAMMES IN THE REGION, WITH THEIR NUTRITIONAL COMPONENTS

Programme	Country	Food/nutrition components				
		Transfers			Other	Conditions
		Component	Type	Amount ^a		
Bolsa Familia	Brazil	Basic benefit	Monetary transfer to supplement income for the purpose of food purchases (families with monthly per capita income <US\$ 35).	US\$ 35 per family/month(2008)	--	Yes
		Variable benefit	Monetary transfer to supplement income for the purpose of food purchases (families with monthly per capita income <US\$ 70).	US\$ 11 child/month (max. 3) (2008)	--	Yes
		Variable benefit associated with adolescents		US\$ 17 per adolescent/month (max. 2) (2008)	--	Yes
Familias en Acción	Colombia	Nutritional subsidy	Monetary transfer to supplement income for the purpose of food purchases.	US\$ 8.5 and US\$ 21.5 per family/month (2008) ^b	--	Yes
Mi Familia Progres	Guatemala	Health/nutrition subsidy	Monetary transfer to supplement income for the purpose of food purchases.	US\$ 20 per family/month (2008)	Food supplement (Vitacereal)	Yes
Oportunidades	Mexico	Food support	Monetary transfer to supplement income for the purpose of food purchases.	US\$ 18 per family/month (2008)	Nutritional supplements (Nutrisano and Nutrivida) for children 6 to 23 months old, undernourished children between the ages of 2 and 5, and pregnant and nursing women. The supplements provide 100% of the daily micronutrient requirements and 20% of the energy needs.	No
		"Live better" food support	Monetary transfer implemented to mitigate the world food price increase crisis.	US\$ 11 per family/month (2008)	--	No

(Continues)

TABLE 3 (Continuation)

Programme	Country	Food/nutrition components				
		Transfers			Other	Conditions
		Component	Type	Amount ^a		
Programme of family vouchers for the purchase of food	Panama	Vouchers for food purchases	Booklet of vouchers with which food can be obtained at a network of accredited establishments.	US\$ 35 per family/month (2007)	--	Yes
PRAF	Honduras	Mother and child voucher.	Monetary transfer to supplement income for food purchases.	US\$ 5 per child/month (2008) (max.. 3 per family)	--	No
PRAF/IDB II	Honduras	--	--	--	Access to services of AIN-C (Comprehensive Care for Children in the Community programme)	Yes
PRAF/IDB III	Honduras	Solidarity Bond (nutritional)	Monetary transfer to supplement income for food purchases.	US\$ 9.5 per family/month (2008)	Access to services of AIN-C (Comprehensive Care for Children in the Community programme)	Yes
Social Safety Net (Red de Protección Social, or RPS)	Nicaragua	Food security voucher.	Monetary transfer to supplement income for food purchases.	US\$ 10.5 – US\$ 14 per family/year (2006) ^c	--	Yes
Crisis Care System (Sistema de Atención a Crisis, or SAC)	Nicaragua	Food security voucher.	Monetary transfer to supplement income for food purchases.	US\$ 12 per family/month (2006)	--	Yes
Food Production Programme (Programa Productivo Alimentario, or PPA), or Zero Hunger	Nicaragua	Food production voucher.	In-kind transfer (productive capital) consisting of a pregnant cow and a pregnant sow, as well as inputs to feed them, poultry, seeds, construction materials for stables, and plants (fruit trees, forest trees and vegetables).	US\$ 2000 aprox.		

(Continues)

TABLE 3 (Conclusion)

Programme	Country	Food/nutrition components				
		Transfers			Other	Conditions
		Component	Type	Amount ^a		
Solidarity Programme	Dominican Rep.	"Eating comes first"	Monetary transfer through a debit card for food purchases at a network of accredited establishments.	US\$ 20.3 per family/month (food only) (2008)	--	Yes
Tekopora	Paraguay	Food support	Monetary transfer to supplement income for food purchases.	US\$ 12 per family/month (2007)	--	Yes
Juntos	Peru	--	--	--	Access to PACFO (Food Supplementation Programme for High-Risk Groups) for children between the ages of 6 months and 3 years (baby food)	Yes
PANES	Uruguay	"Food card"	Monetary transfer through a debit card for purchase of food and other basic items at a network of accredited establishments.	US\$ 13 - US\$ 34 per family/month (2007)	--	No
Buenos Aires Citizenship Programme	Argentina (City of Buenos Aires)	Household subsidy	Monetary transfer through a debit card for purchase of food and other basic items at a network of accredited establishments.	US\$ 25 - US\$ 256 per family/month (2008) ^d	--	Yes

Source: ECLAC, based on government information.

^a US\$ for each year. Conversion based on International Monetary Fund "rf" series.

^b Amounts depend on city of origin. Four groups of cities are defined, with different amounts for each.

^c Amount decreases over three years.

^d Amount depends on household's socioeconomic characteristics.

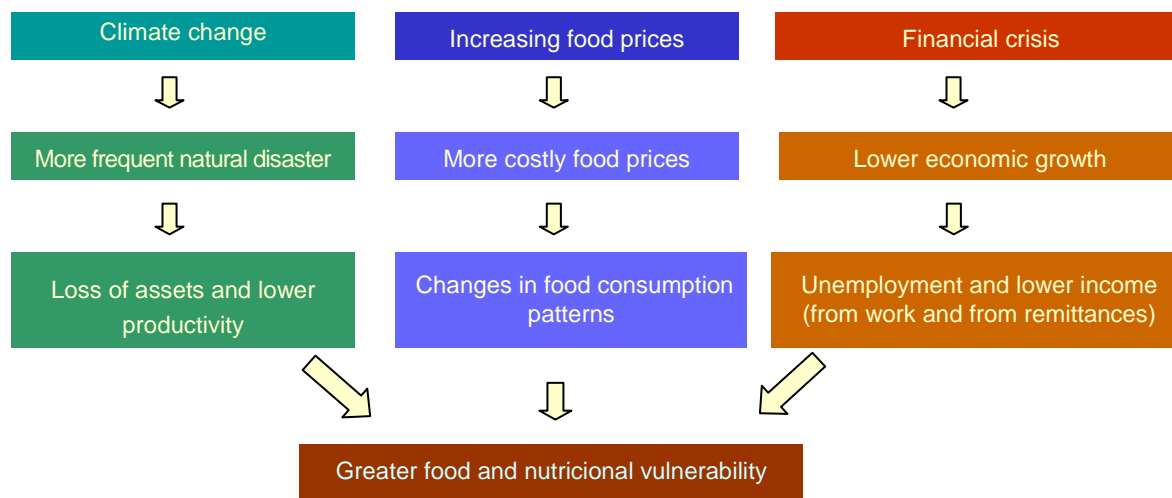
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II. Crisis and vulnerability

1. Characteristics and consequences of the nutritional crisis

Global economic, social and environmental events of the last few years are having significant effects on the countries' development, increasing the risk of food and nutrition insecurity, and posing new challenges for decision-makers, who must seek creative ways of turning this situation into an opportunity.

DIAGRAM 5
THE NEW CHALLENGES



Source: Martínez R. (2008).

The above diagram represents an overview of the challenges resulting from the above-mentioned “events”, or crisis-generating realities. The principal driving factors are set forth below.

1.1. Climate change

For some years, the world has been undergoing a process of climate change that many scientists believe is here to stay. The process is thought to be the result of the steady increase in fossil fuel use

in recent decades, which has been intensified by a significant rise in demand to feed the growth demands of Asia, particularly China and India.

Various studies by FAO and others indicate that this process leads to an increase in ocean temperatures, which in turn increases the frequency and intensity of natural disasters. The region has been particularly affected by this phenomenon in the form of more intense hurricane activity in the Caribbean and Central America. Increases in continental temperatures lead to the expansion of arid zones, increased desertification and a shifting agricultural frontier. On the other hand, some sectors have benefited from an improving agricultural climate, especially in the south.

Climate change has also had effects on animal and pest epidemiology, creating new risk scenarios and uncertainties. All of this has led to a loss of assets and productivity across vast agricultural sectors.

Thus, in general, as explained by Climate Change and Food Security: A Framework Document, issued by FAO in 2007, climate change has a number of important effects on food security, namely:

Effects	Resulting in
CO ₂ fertilization effect	Increased availability of carbon dioxide for plant growth.
Increases in average world temperatures	Higher maximum temperatures on hot days. Higher minimum temperatures on cold days. More hot days per year. More frequent, longer and more intense hot spells.
Gradual changes in precipitation	More frequent, longer and more intense dry periods and droughts. Changes in the periodicity, location and quantity of rain and snow.
Increase in the frequency and intensity of extreme climatic phenomena	Increased annual frequency of strong winds, heavy rains, storms and floods often associated with tropical storms and hurricanes.
More variable climate	More unstable seasonal climatic patterns. Changes in the beginning and end points of the seasons.
Rising sea level	Flooding of human habitats. Infiltration of saltwater.

For Latin America and the Caribbean specifically, the Intergovernmental Panel on Climate Change (IPCC) has predicted the following impacts from climate change (FAO, 2008):

- Over the next 15 years, it is probable that the inter-tropical glaciers will disappear, reducing the availability of water and hydroelectric generation capacity in the Plurinational State of Bolivia, Peru, Colombia and Ecuador.
- Any future decline in precipitation in the arid and semi-arid areas of Argentina, Chile and Brazil is likely to produce severe water shortages.
- The anticipated 2°C increase in temperature and diminished water in the soil could lead to tropical forests being replaced by savannah in the eastern Amazon and in central and southern Mexico, with semi-arid vegetation giving way to arid plant life in parts of north-eastern Brazil and most of central and southern Mexico.
- As a result of climate change, rice yields are expected to diminish after 2020, while increasing temperatures and precipitation in south-eastern South America are likely to increase bean and soy yields, given the effects of CO₂ concentrations.
- Livestock productivity is likely to diminish with the anticipated 4°C increase in temperature.

- The increasing surface temperature of ocean waters as a result of climate change is expected to have adverse effects on:
- the coral reefs of Mesoamerica (e.g., Mexico, Belize and Panama); and
- the location of fish populations in the south-eastern Pacific (e.g., Peru and Chile).
- By the 2020s, between 7 and 77 million people are likely to lack adequate water supplies, and these figures could increase to 60 or 150 million in the second half of the century, with a possible further reduction of water availability and increasing demands by a growing population in the region.
- The frequency and intensity of hurricanes in the Caribbean Basin is likely to increase.
- The increasing number of people at risk for famine, based on the A2 emissions¹⁷ outlined in the IPCC Special Report on Emissions Scenarios, is likely to reach 5, 26 and 85 million by 2020, 2050 and 2080, respectively, assuming little or no CO2 effect.

Other climate change studies show that the Latin American and Caribbean region has been particularly affected in recent years by global climatic changes. The impact in the region has manifested itself in various ways, including periods of intense drought, intense periods of precipitation and more frequent extreme climatic phenomena such as hurricanes. According to the United States National Oceanic and Atmospheric Administration (NOAA), 2008 has been the most active season since 1944 in terms of tropical storms (total of 16), major category 3 hurricanes (5) and total number of hurricanes (8). For the first time, six consecutive tropical cyclones reached the United States coast, and three category 3 hurricanes battered Cuba. In addition, it was the first time in the Atlantic area that category 3 hurricanes formed in five consecutive months (July: Bertha; August: Gustav; September: Ike; October: Omar; November: Paloma). The region's vulnerability is increasing because of poverty, degradation of natural resources, lack of soil use planning and failure to develop a major plan to mitigate the damage caused by climate-related disasters.

The impact of the El Niño phenomenon is especially striking in the region. According to "Climate Change in Latin America and the Caribbean", the El Niño event of 1982 and 1983 led to a 12% drop in GDP for Peru, as well as a decline of 8.5% in the region's agricultural output and a 40% drop in fishing production (ECLAC, 2000). The next El Niño event, in 1997-1998, caused catastrophic floods and severe droughts, producing significant economic damage in north-eastern and southern Brazil, as well as in the Pacific coastal sections of Ecuador, Peru and Chile. In Paraguay, Uruguay and Argentina, precipitation in some places was more than 16 or 17 times the normal level. The forest fires in Mexico, Central America, the Bolivarian Republic of Venezuela, the Plurinational State of Bolivia, Paraguay and Brazil may also have been associated with this phenomenon. In the Andean region as a whole, damage from the El Niño in 1997 and 1998 totalled US\$ 7.545 billion, equivalent to 95% of the 1997 GDP of the Plurinational State of Bolivia or 32% of the exports of the Bolivarian Republic of Venezuela. The Andean country most affected was Ecuador, where losses were equivalent to 14% of GDP. Total losses in Latin America and the Caribbean totalled US\$ 15.480 billion.

The appearance of pests poses an additional challenge, e.g., the plague of beetles that affected Belize in 1999 and 2000, destroying pine forests and greatly affecting the area's biodiversity. Also notable is the already observed increase in infectious/contagious diseases such as dengue, malaria and respiratory illnesses.

Vulnerability in the small island states of the Caribbean is being aggravated by the particular conditions there. Changes in the rain cycle and higher temperatures would adversely affect agriculture. Increases of 10% or 20% in precipitation, and of only one or two degrees in temperature, would reduce

¹⁷ Scenario A2 assumes less economic strength, less globalization and high and sustained demographic growth.

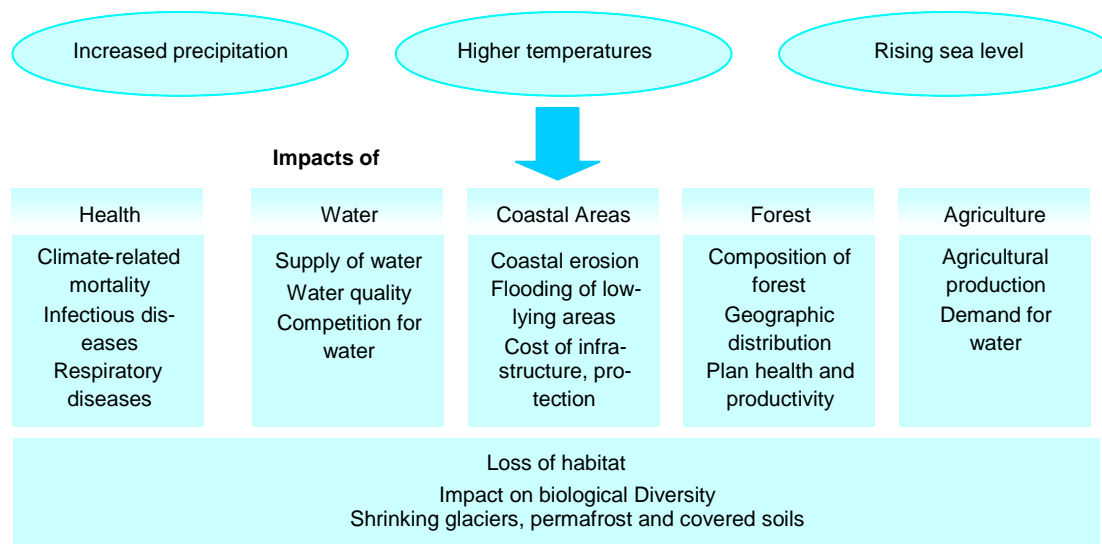
production of broad beans, maize and rice by around 10%. More sophisticated agricultural techniques would have to be introduced, including new irrigation schemes – a situation that would provoke additional tensions over water, which is already in short supply. New crops resistant to the adverse conditions would have to be developed and introduced in the region (UNEP, 2006).

The ECLAC study “Climate Change in Latin America and the Caribbean: a Review” (2009a) provides an overview of information from a series of specialized studies with estimates of what could occur with grains in different parts of the region. It states that, according to one study on the production of maize in a scenario of changing climate (Jones and Thornton, 2003), production of this crop in 2055 by small farmers in Latin America could decrease 10% on average. Mexico, where maize is the basic food of campesino families, is expected to see a country-wide reduction in the area suitable for this crop, as well as a major decline in yields in certain areas such as Puebla, Veracruz and Jalisco (Conde and others, 2004 and Government of Mexico, 2006). In terms of rice, information collected by IPCC (Magrin and others, 2007) on Latin America points to an overall decline in production of 3% to 16% in Guyana, around 31% in Costa Rica, from 16% to 27% in Guatemala and between 2% and 15% in the Plurinational State of Bolivia”.

The region will also be affected by rising sea levels, which will be particularly problematic for the Caribbean countries. In South America, the shrinking ice in glaciers, Andean peaks and Patagonia could affect the availability of water.

This would exert pressure on the fishing industry, affecting the supply of food and the economy of some communities. In addition to agriculture, changes in the water cycle would affect sources of potable water and hydroelectric energy generation, and would exacerbate the erosion of hillsides. Options to address these changes include developing national water administration systems using integrated approaches, assigning high priority to national water resources, and promoting efficient and rational use of water. As in many other developing countries, human systems in the region are highly sensitive to changes in water supply and demand, soil use practices and demographic changes (UNEP, 2006).

DIAGRAM 6
EXPECTED EFFECTS OF CLIMATE CHANGE IN THE LATIN
AMERICAN AND CARIBBEAN REGION



Source: United Nations Environment Programme, 2006.

In order to mitigate the impacts of climate change in the region, various organisations, including the World Bank, have developed proposals for action. The following are some of the World Bank's most recent climate change programmes for the region:

- Development policy loans of US\$ 501 million to support the policy agenda on climate change in Mexico – the first programme of this type at the World Bank.
- Programme to address the impact of the shrinking of tropical glaciers in the Plurinational State of Bolivia, Peru and Ecuador.
- Programmes to adapt to climate change in the West Indies, including strengthening the critical coastal infrastructure of Saint Lucia, and a wind-powered water desalinization programme in Saint Vincent and the Grenadines.
- Up-to-date data and experience from the Advanced Land Observing Satellite (ALOS), developed and operated by the Japanese Space Organization (JAXA), in order to improve the design of measures to adapt to the threats of climate change in the region.
- A new study to explore the possibility and consequences of mass death and the “savannization” of the tropical Amazon jungle –a potentially disastrous effect of climate change that would impact climate patterns not only in the region but also in areas as distant as North America.

Upcoming initiatives include studies in Mexico and Brazil to provide ad hoc evaluations of new paths to growth with low carbon emissions, and the November publication of a report by the office of the Chief Economist of the World Bank on the economic impact of climate change in Latin America and the Caribbean (World Bank, press release no. 2009/106/LCR, October 2008).

1.2. Changing food prices

(a) The international context

As the Social Panorama of Latin America, 2008 points out:

“Like most other regions in the world, the Latin American and Caribbean countries were hit, especially in 2007 and the first half of 2008, by sharp rises in international food prices that were triggered by a series of entirely external factors. The situation started to ease towards the middle of 2008, when prices began to subside, although they have remained above the levels recorded in or prior to 2006.

“International food prices rose on average by 138% between 2000 and 2008. The largest increases occurred between 2006 and 2007, with prices rising by 23.8% in that biennium, and between 2007 and June 2008 when they rose by 40%. Furthermore, several of the commodities whose prices have risen by most, such as rice, wheat and maize, are essential items in the basic shopping basket of the poorest people. Between June 2007 and June 2008, the prices of these products rose between 80% and 90%.”

The FAO food price index fell between the final months of 2008 and March 2009, at which point increases could be seen. Nevertheless, dairy products and fats and oils have fallen as low as their late 2006 levels. The rising trend in rice and meat prices has also changed, though to a lesser extent. The case of sugar is unique among these, with average prices in May 2009 reaching a several-year high.

In the specific case of grains, although prices fell considerably in the last months of 2008, prices remain 15% to 20% higher than at the end of 2008, principally because of decreased planting in the United States and Europe, and because of the serious drought afflicting Argentina, which is one of the world's largest food producers (Mullinag, M. and Blas, J., 2009).

As figure 19 shows, the international prices of soy, maize, wheat and rice began rising in mid-2007, and peaked in the first half of 2008. Between June and July, the prices of these commodities began to fall, with wheat declining to its January 2007 level. In the case of rice, the world prices are related to the specific producers. While prices dropped in Thailand, they rose in Vietnam and the United States as a result of strong demand. With India's return to the market, a new decline can be expected (CIRAD, 2009).

Taking 2003 as a baseline, world food prices have increased by around 50%, while fertilizer and oil prices have increased 400%, causing a substantial impact on food purchases, especially for the most vulnerable groups (FAO 2008a).

“The rise in energy prices has also had a major effect in pushing up food prices, not only by increasing food production and marketing costs (fertilizers, transport), but also by stimulating a search for alternative energy forms. In United States and Europe, the subsidies offered for biofuels have boosted the demand for agricultural products. According to Jiménez, Jiménez and Kacef (2008), between 50% and 75% of the increase in demand for certain grain products reflects the greater demand for biofuels, while the World Bank estimates that ethanol production will consume 30% of the maize crop in the United States in 2010. Recent empirical research has concluded that the expansion in the production of biofuels has been the key factor explaining the reduction in maize and wheat inventories and has encouraged export restrictions and fuelled a speculative boom (Mitchell, 2008). ECLAC (2008b) has argued that the factors influencing the trend of commodity prices reflect dynamics on both the financial and goods markets. Since 2006, the demand for instruments indexed to commodity prices has increased (Jiménez, Jiménez and Kacef, 2008), and between January and September 2008, grain and oilseed futures contracts expanded by 15.2% compared to the same period in 2007 (Chicago Chamber of Commerce, 2008). Nonetheless, the data also show a reduction in the volume of contracts for grains, oilseeds and other food commodity products in the latter months of 2008, so the impact of commodity price speculation could be limited to a specific period” (ECLAC, 2008b).

TABLE 4
CHANGE IN FAO PRICE INDEX FOR FOUR BASIC FOODS, 2000-2009

Year	Food price index ^a	Meats ^b	Dairy ^c	Grains ^d	Oils and fats ^e	Sugar ^f
2000	90	94	95	85	68	116
2001	92	94	107	86	68	123
2002	90	90	82	95	87	98
2003	98	99	95	98	101	101
2004	111	111	123	107	112	102
2005	115	113	135	103	104	140
2006	122	107	128	121	112	210
2007	154	112	212	167	169	143
2008	191	128	220	238	225	182
2008 May	209	132	240	267	272	171
June	214	134	241	274	283	172
July	208	134	239	257	265	202
August	197	136	227	239	222	207
September	185	137	203	226	200	192
October	163	135	185	190	153	169
November	150	127	160	178	133	172
December	143	122	142	174	126	167
2009 January	143	118	122	185	134	178
February	140	116	114	178	131	188
March	140	114	118	179	129	190
April	143	115	117	179	147	194
May	152	116	124	188	168	228

Source: FAO, 2009. Available at: <http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>.

^a Food price index: The average of six indices for groups of products mentioned above (meats, dairy products, grains, oils, fats, sugar), weighted according to average share of exports for each of the groups in 1998-2000, and including a total of 55 foods.

^b Consists of three types of poultry, four types of beef, three types of pork and one type of mutton. In all cases, the average is weighted according to fixed trade shares. The four average prices for the above-mentioned groups are weighted according to the average share of exports that each group represented in 1998-2000.

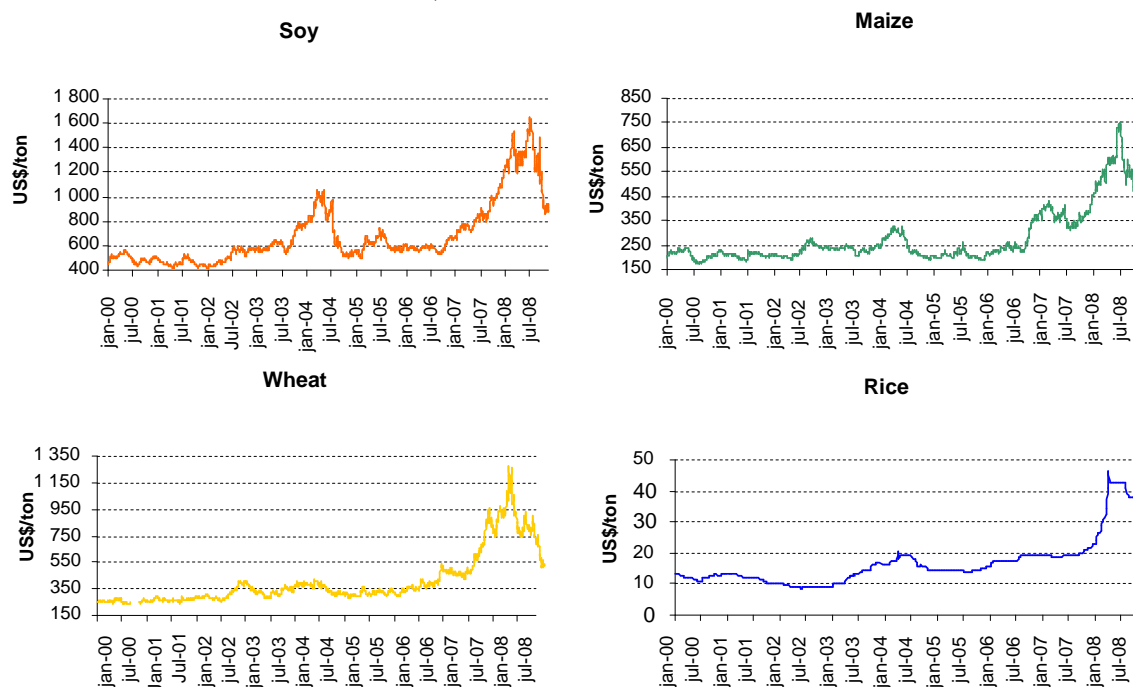
^c Includes butter, whole powdered milk, skim powdered milk, cheese, and a quantification of the casein contained in those products. The average is weighted according to average share of exports for each of those products in 1998-2000.

^d This index is based on price indices for rice and other grains, weighted according to their average share of the market in 1998-2000. The grain price index reflects the price indices for wheat (average of nine different types), and the price of maize in 1998-2000 according to the International Grains Council index. The rice price index has three components that cover the average prices of 16 varieties of rice. These include Indica, Japonica and varieties of aromatic rice (the index is an average, weighted according to fixed trade shares for these three types of rice).

^e This is the average of 11 different types of oils (including animal and fish oils), weighted by their average share of export trade for each of the products in 1998-2000.

^f Index as per the prices of the International Sugar Agreement.

FIGURE 19
CHANGING INTERNATIONAL PRICES OF A NUMBER OF ESSENTIAL
PRODUCTS, JANUARY 2000-NOVEMBER 2008



Source: Bloomberg.

Among the various reasons for the rising prices, Social Panorama, 2008 emphasizes that:

There appear to have been notable effects from changes in the agricultural policies of some countries—primarily those that are considered large grain producers, such as China, the European Union, India and the United States. Prohibitions on exporting certain types of products could be responsible for roughly 30% of the increase in current food prices (Torero, 2008).

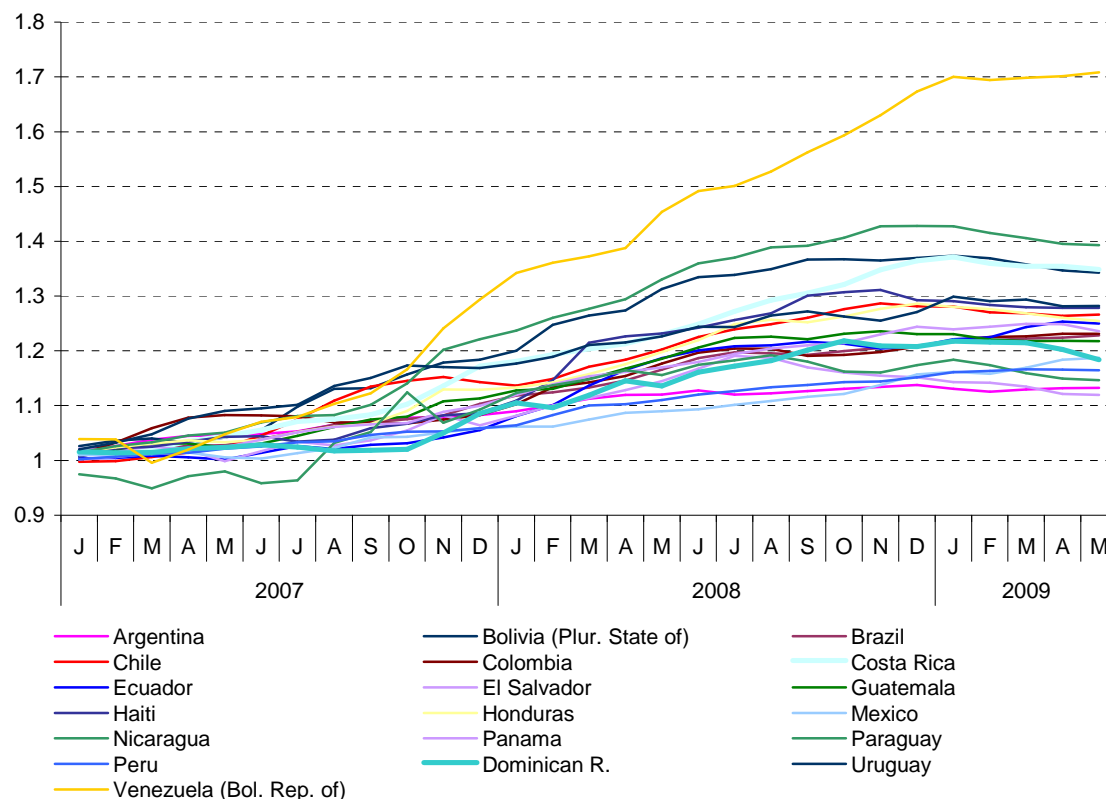
Meanwhile, along with a decline in food production (principally grain) and a steady increase of fertilizer and oil prices, demand from China and India is increasing. These countries are in a cycle of full economic expansion, and their presence complicates this equation. With their populations' increasing purchasing power, changes in eating patterns are emerging, primarily involving a shift from an essentially vegetarian diet (with grains playing the major role) to one that increasingly includes animal products such as beef and poultry.

In the mid-1980s, per capita beef consumption in China was approximately 20 kilograms per year. This rose to 50 kilograms by 2007. How is this greater demand for animal products affecting grain prices? The answer is seen in the greater proportion of world grain output (e.g., soy and maize) grown as animal feed. Each kilogram of beef produced requires 13 kilograms of grain as feed (Revista Veja, 2008).

(b) The regional scenario

From early 2007 to December 2008, food prices in Latin America and the Caribbean increased steadily, for a cumulative increase of 30%. As occurred worldwide, however, July and September 2008 saw a flattening of the curve, with major declines in some products. The Bolivarian Republic of Venezuela is a case in point, with average increases of 85%, while Nicaragua saw a 50% increase. In May 2009 there was a levelling of the consumer price index for foods and beverages.

FIGURE 20
LATIN AMERICA AND THE CARIBBEAN (19 COUNTRIES): CUMULATIVE CHANGE
IN FOOD AND BEVERAGE CPI BETWEEN JANUARY 2007 AND MAY 2009^A



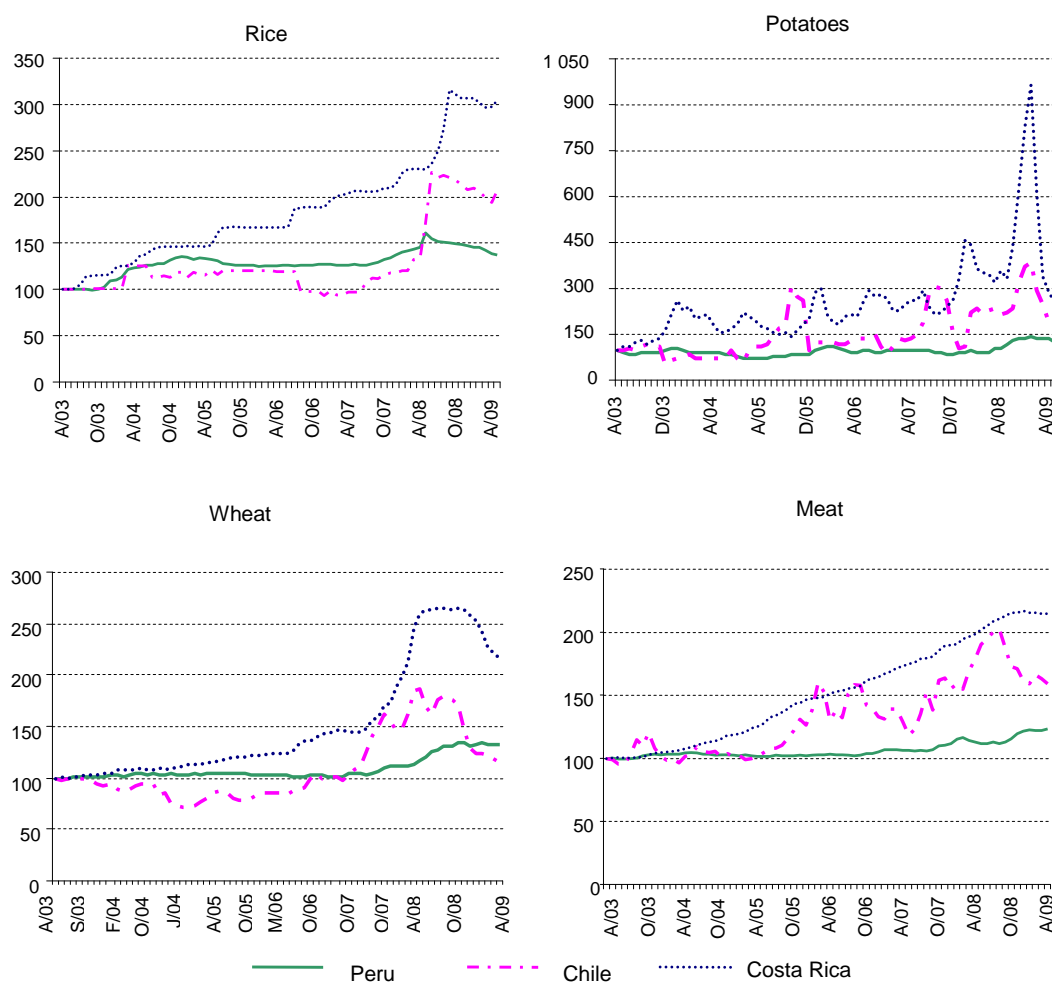
Source: Authors, based on ECLAC Statistics and Economic Projections Division.

^a Costa Rica, Ecuador, El Salvador, Haiti, Honduras y Dominican Republic do not have a joint food and beverages index. Thus, this is an approximate average of the two values.

As its name suggests, the international food price index is a variable that is a function of the value at which the goods are traded in international markets. However, for analysing the food situation at the household level, it is more relevant to know how the rising prices affect households' available income. In the Plurinational State of Bolivia, as well as in El Salvador, Guatemala, Nicaragua and Brazil, the price of rice rose sharply during 2007, remaining high until October-November of 2008, when it began to decline. The downward trend is still in evidence as of the first months of 2009. In Haiti, retail prices of the main basic foods have been declining steadily, with positive effects on households' access to food. In the case of maize, prices are behaving similarly, with a sustained rise from 2007 to July-August 2008, when the price began to fall, although the first months of 2009 show a renewed upward trend (FAO 2009a, 2009b).

In Chile, Costa Rica and Peru, the price of rice remains above its 2003 and 2004 levels. Costa Rica shows the greatest price increases in the three products considered here—rice, meat and wheat—and in addition, prices in that country are responding more slowly to the decline in international price levels.

FIGURE 21
MONTHLY CHANGES IN PRICES OF RICE, POTATOES, MEAT AND MILK IN
SOME OF THE REGION'S COUNTRIES
(Baseline 2003=100)^a



Source: Authors, based on official information from each country.

^a For Chile, prices to the producer.

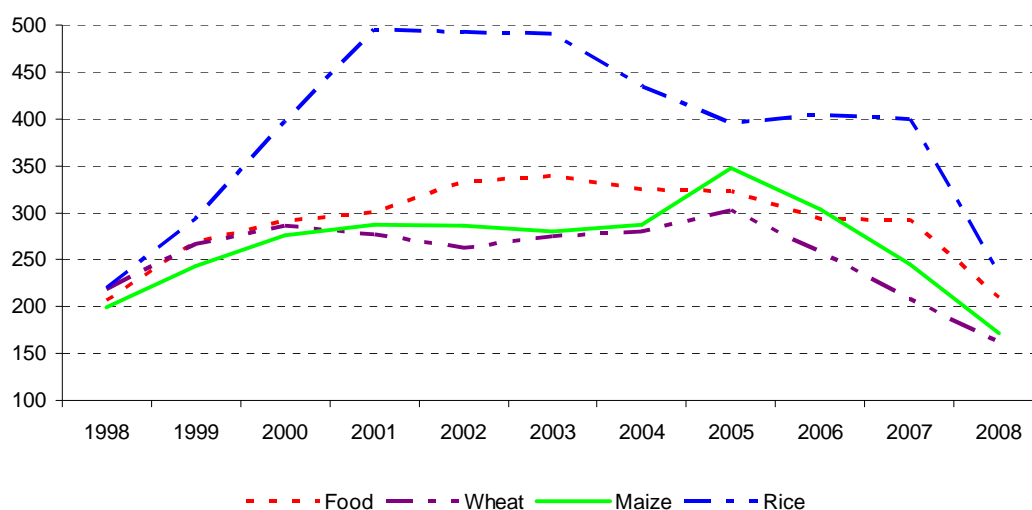
Food prices directly affect urban wage earners, who purchase all of their food in the marketplace. In the rural environment, this situation could even be considered an opportunity by many, but this depends on each country's marketing system. It is not always the producers—let alone agricultural wage workers—who receive the profits, but, rather, the intermediaries.

As figure 22 shows, 2008 wages, on average, can purchase the same quantity of food as ten years ago, since purchasing power in 2002–2006 rose 70%. This situation is even more pronounced in the case of wheat.

During the 2003–2008 period, the first- and second-quintile income population in Chile, Colombia, Costa Rica and Peru progressively lost food purchasing power. Among the four countries, Costa Rica's situation was the most problematic, with purchasing power losses of over 40% for all products studied. A similar situation holds for potatoes in Chile. Although the low-

income population in Colombia and Peru was less affected, the purchasing power of the poorest households in these countries declined between 2007 and 2008. The greatest decline in Colombia was in grains, while the sharpest decline in Peru was in rice and white maize.

FIGURE 22
WAGES VS. FOOD PRICE INDICES
(Baseline 1994=100)



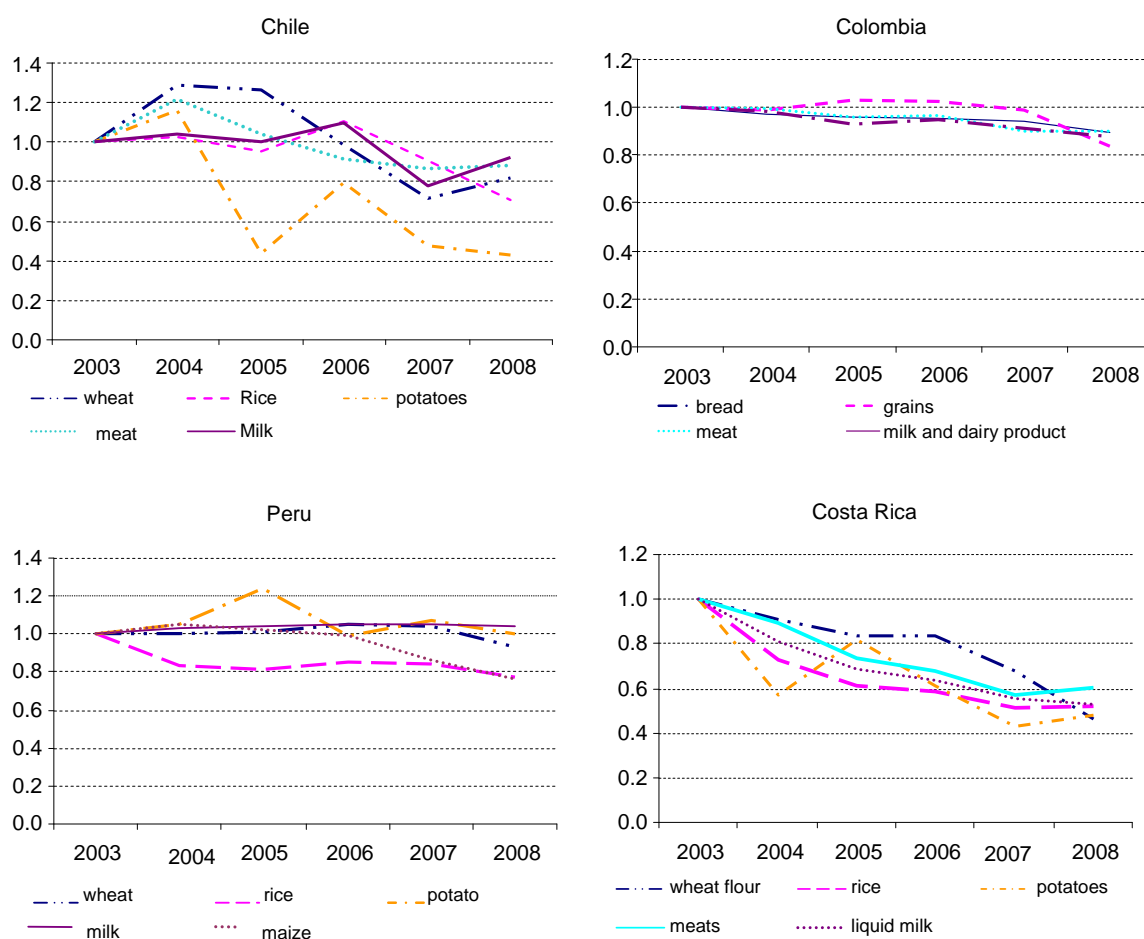
Source: ECLAC, Economic Development Division.

According to the most recent estimates published in the Social Panorama of Latin America and the Caribbean:

“The rise in food prices in 2007 prevented 4 million persons from escaping from poverty and indigence who would otherwise have done so. This effect was even more significant in 2008, since the cumulative increase in food costs since late 2006 has swelled the numbers of poor persons by 11 million compared with the numbers that would have been in this situation if food costs had risen at the same rate as those of other goods... This means that, if the actual situation matched the simulation, the rate of indigence projected for 2008 would have been 1 percentage point lower, rather than 0.34 of a percentage point higher, than the 2007 level. In terms of the impact on different countries, the situation varies considerably. The simulation exercise indicates that cumulative price rises in 2007 and 2008 had the greatest impact on indigence in the Bolivarian Republic of Venezuela, Bolivia, Chile, Ecuador and Uruguay, where the number of persons living in indigence is approximately 50% higher than it would have been if food price rises had not been so much steeper than they were for other goods. In these countries, together with Costa Rica, the rise in food prices accounts for an increase of 15% or more in the number of poor persons” (ECLAC, 2008a).

According to the latest estimates by FAO, the current food price situation has meant an increase of 12.8% in undernourishment in the region. Thus, “The spike in food insecurity in 2009 underlines the urgency to tackle the root causes of hunger swiftly and effectively” (FAO 2009c).

FIGURE 23
RELATION BETWEEN THE CHANGE IN THE UPPER CUT-OFF POINT OF THE
FOURTH DECILE AND CHANGES IN SELECTED FOOD PRICES^a
(Baseline 2003=100)



Source: Authors, based on information from household surveys and national statistics. Colombia: Food price index. Source: National Administrative Department of Statistics of Colombia. Chile: Index of food prices to producers. Source: National Institute of Statistics of Chile. Costa Rica: Consumer food price index. Source: National Institute of Census and Statistics of Costa Rica. Peru: Consumer food price index, estimated on the basis of selected food prices. Source: National Institute of Statistics of Peru.

^a Considered here are foods whose international price variation could have affected the domestic market. In some cases, it was possible to work with the selected food basket to calculate the basic food basket for the poverty and indigence line.

This situation requires lower income households to reorganize their budgets, with the following nutritional consequences:

- Insufficient consumption of nutrients, which could lead to undernutrition, with 400,000 to 500,000 new cases (a rise from 7.3% to over 8%).
- Deterioration of diet due to food substitutions, with increased overweight and obesity as a result of the consumption of higher-calorie products.
- Risk of reduced supplementary feeding in children 6 to 24 months old.

1.3. The financial crisis

The global financial crisis that began in October of 2008 is having major economic consequences in the region. A number of developed countries have indicated that they are experiencing a unique recession that is not only affecting their own growth, but is also shrinking demand and increasing unemployment. The crisis is affecting the region through various channels. According to ECLAC (2009), the main channels for the transmission of the crisis are the slowdown in exports, the decline in the price of primary products, the reduction of remittances, the decline in revenue from tourism, and reduced flows of foreign direct investment. At the same time, the international financial situation makes foreign credit more costly and international financing less readily available.

The International Monetary Fund (IMF) has estimated that foreign direct investment in developing countries will decline by 32% during 2009, with a direct effect on unemployment, and that foreign aid for development will decline by roughly 25% in 2009, contrasting with the increase in this category that occurred in 2008. International trade is projected to fall 5% according to the IMF, and 9% according to the World Trade Organization, affecting the export revenues of developing countries. Added to all of this is the increased cost of foreign credit, and greater limitations on obtaining loans—factors that limit the ability of the region's countries to access foreign financing. The World Bank estimates that remittances, which have grown at rates of close to 20%, will fall 8% during 2009. This, too, will be felt in the developing countries (FAO 2009c).

Trade in Latin America and the Caribbean was in a state of recovery around 2007, after a decline in 2000-2002 due to the Argentine crisis. As a direct result of the financial crisis, however, demand for the region's manufactured goods and raw materials fell, transferring the impact of the crisis to the regional economy, where investment declined, unemployment rose and real wages fell.

Meanwhile, projections for the region's financial indicators are far from encouraging. Added to the decline in securities markets, according to the World Bank report *Global Economic Prospects 2009*, the flattening curve of import growth in high-income countries can be expected to be reflected in developing countries' export volumes.

The region's countries have shown solid growth in the last few years, which has allowed them to maintain current account surpluses, accumulate reserves and improve policies for containing core inflation, improve their banking systems, and increase regulatory funding to prevent financial contagion.

In 2008, overall inflation jumped in response to oil and food price increases, and regulatory authorities in countries like Brazil and Chile increased interest rates. The region's gross capital inflows contracted by 45% between January and September of 2008 as compared with the same period in the previous years. Falling foreign demand and deteriorating international financial markets, combined with the recent decline in commodities prices, slowed GDP growth to 4.4% in 2008, as against the 2007 figure of 5.7%.

The global economic slowdown and the scarcity of capital inflows represent significant risks to sustained growth, creating particular pressure on private-sector investment. As commodities prices continue to fall, the current account surpluses of some of the large exporting countries, such as Argentina, will probably disappear, and current accounts will drop into the negative range. In other countries, including Brazil and Mexico, the extent of the recession in the United States and Europe will mean negative export growth, though falling imports will make it possible to regain a surplus position.

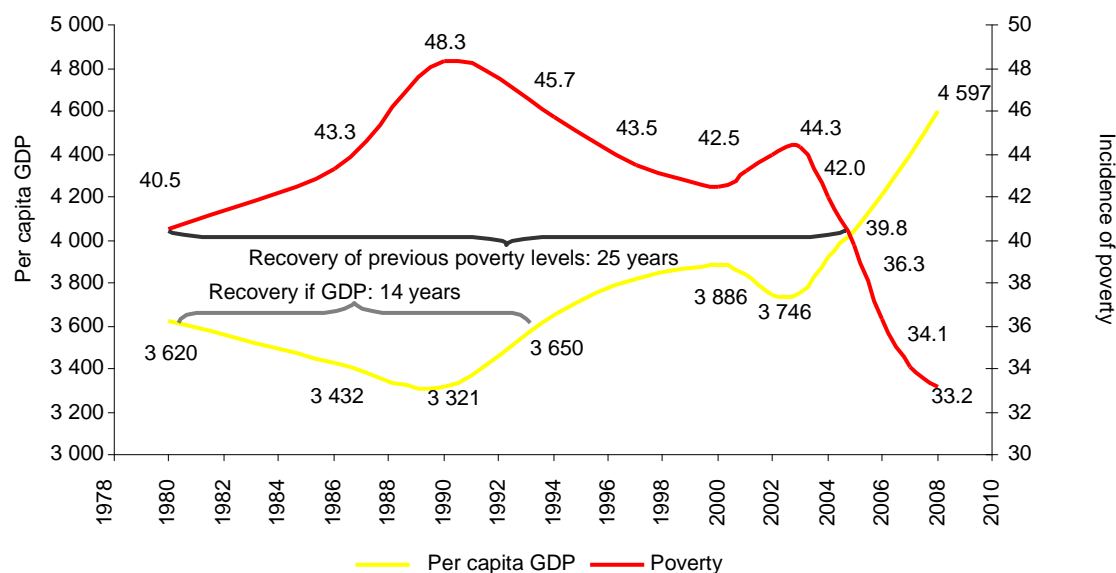
The region's GDP growth is expected to fall to 2.1% in 2009 before recovering to the 4% level in 2010. The specific events produced in the different countries could also create challenges. Conditions in a number of Andean countries are increasingly unstable. The Bolivarian Republic of Venezuela has undergone another wave of nationalization, and the country's growth is expected to

decline from 8.4% in 2007 to 3.2% in 2010. Argentina's GDP is expected to decline from 8.7% in 2007 to 4% in 2010, with growth of 1.5% for 2009 (World Bank, Global Economic Prospects, 2009).

Also directly impacting household economies is the decline in remittances from family members in the United States and Europe. This affects many local economies, and reduces purchasing capacity, including food purchasing capacity.

As a result of increasing global unemployment, with many workers returning to their countries of origin, the region's remittances can be expected to decline. This could mean an even greater increase in the region's unemployment, while at the same time making more people dependent on social security programmes, which historically have been insufficient to cover demand.

FIGURE 24
LATIN AMERICA AND THE CARIBBEAN: COMPARISON BETWEEN PER CAPITA GDP AND THE INCIDENCE OF POVERTY



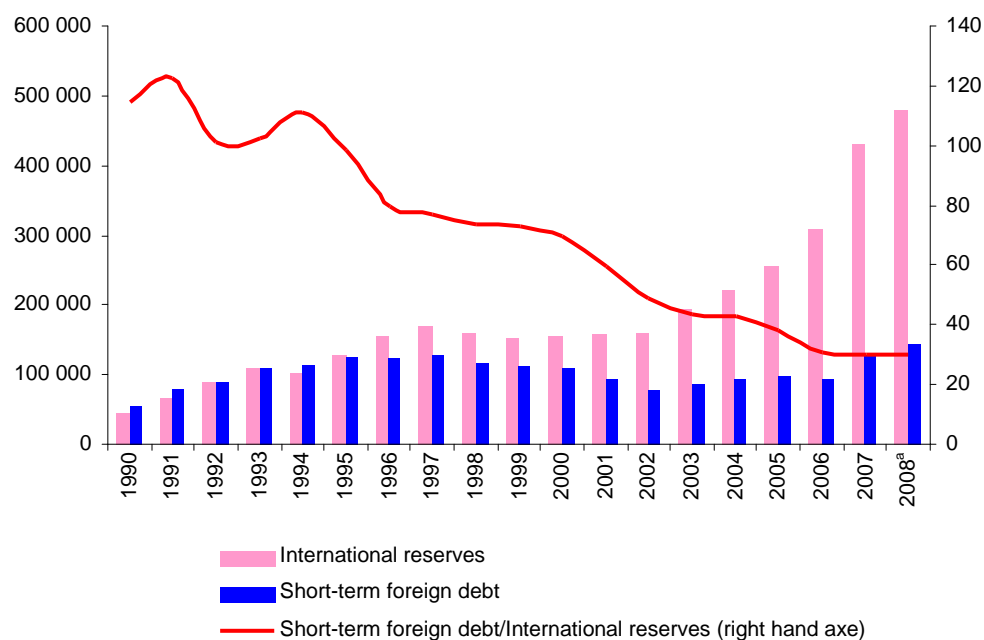
Source: ECLAC, based on household surveys.

The impact of the financial crisis on the most vulnerable households reduces available income, increases unemployment, and thus increases poverty. The incidence of poverty is inversely correlated with per capita GDP, since a drop in GDP is likely to increase poverty. As figure 24 shows, observation of previous crises in the region indicates that recovery of per capita GDP after a recessionary period occurs more quickly than recovery from increased poverty. Per capita GDP in 1980 was US\$ 3,620. This had fallen to US\$ 3,321 by 1990 as a result of the debt crisis, and recovered by around 1994. On the other hand, the crisis brought poverty rates from approximately 40% to over 48% in ten years, and only in 2006 was the previous level re-established. Thus, while per capita GDP fell 8% and recovered in 14 years, poverty rose 19% (in relative terms) and took 26 years to recover.

Nevertheless, an analysis of the government revenue available, in the region, for mitigation of the consequences of the crisis suggests that today's scenario justifies less pessimism than the previous experience would indicate. Over the last few years, Latin America has experienced an economic boom, primarily as a result of high raw materials prices and favourable foreign financing conditions (Ocampo, 2008). This has allowed the countries to accumulate international reserves,

while reducing the public debt. The economies therefore have some resources available for funding policies to reduce the food insecurity that can be generated by declining incomes and a corresponding decline in access to food.

FIGURE 25
LATIN AMERICA AND THE CARIBBEAN: SHORT-TERM FOREIGN DEBT
AND INTERNATIONAL RESERVES



Source: ECLAC, 2009.

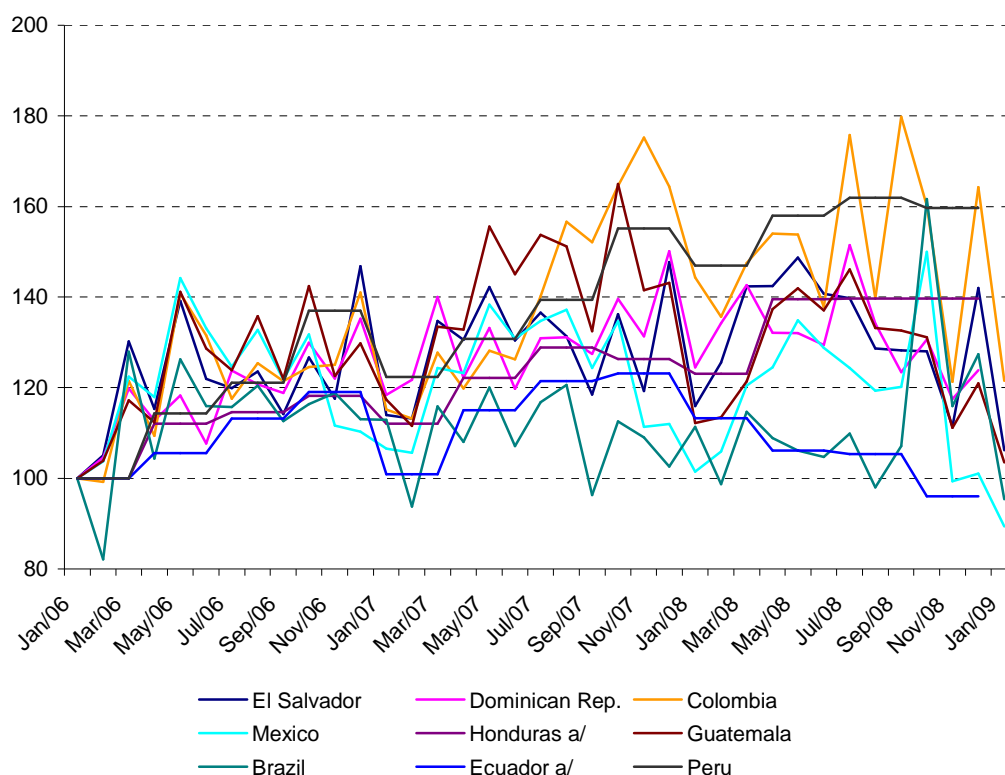
^a Projection.

According to a recent World Bank report, various factors could be playing a role in the decline of remittances to the Latin American and Caribbean countries. These include declining growth in the United States—especially in the construction sector, which affects employment and income in the Hispanic population (and especially among Mexican immigrants)—as well as a decline in emigration to the United States. Another important factor is the increasing unemployment in different world regions because of the crisis in the financial markets. According to World Bank figures, close to 5.1% of the region's population (around 28.3 million workers) emigrated to countries in North America and Europe, and have sent approximately US\$ 25 billion to the region annually. This represents close to 10% of Mexico's GDP—Mexico being the country receiving the greatest volume of remittances. There was a decline of 4.2% in the region's remittances in the January-August 2008 period. Such declines were not seen in other regional economies.

Figure 26 shows what occurred in nine of the region's countries. During 2007, remittances grew sharply over 2006 levels, with variations during the year (possibly due to seasonal patterns associated with religious and national celebrations). The 2008 pattern is similar, but a slowdown in the flow of remittances can be seen, with January 2009 flows being close to 2006 levels.

At a minimum, then, these three elements of crisis in the last few years have had a direct impact on food and nutritional vulnerability, in the form of increasing risk and/or less individual and collective ability for households to cope and to ensure that their members have an adequate diet.

FIGURE 26
LATIN AMERICA (9 COUNTRIES): MONTHLY INDEX OF REMITTANCES, 2006- 2009
(Baseline 2006=100)



Source: ECLAC, based on official information from the countries.

^a Quarterly data.

2. Alternatives for intervention in the new regional scenario

There is a clear need for social policy, in the region, aimed at reducing undernutrition and hunger. As WFP and ECLAC have emphasized, the policy must be based on a comprehensive long-term strategy, and must be an integral part of overall government policy. The table below shows recommendations that previous studies have put forth as central for implementing a comprehensive policy.

Today's crisis scenario at both the global and regional levels demands interventions with short-term impact, to mitigate the crisis's effects on nutrition and food. This requires resources. As indicated by United Nations Secretary General Ban Ki-moon in September 2008, in relation to the world food situation, forty billion dollars per year would be required over the next three to five years to finance actions needed to alleviate the food crisis and ensure a long-term improvement in agricultural production. (UN News Centre).

Following are some points that may be useful in this context.

TABLE 5
POLICY RECOMMENDATIONS TO PROTECT FOOD SECURITY AND ELIMINATE CHILD UNDERNUTRITION FOOD PRODUCTION AND ACCESS

	<ul style="list-style-type: none"> ▪ Facilitate access to productive assets related to land, equipment and financing for the most vulnerable families. ▪ Encourage improvement of soils, sound water management and storage, and extension activities that foster the capacity for partnerships/associations and the industrialization of productive processes. ▪ Promote and improve food practices based on native and traditional products.
Infrastructure	<ul style="list-style-type: none"> ▪ Invest in schools and health services. ▪ Invest in potable water and sanitation services in marginal areas. ▪ Invest in irrigation infrastructure. ▪ Establish channels to facilitate the marketing of local products and the distribution of food in emergency situations.
Trade	<ul style="list-style-type: none"> ▪ Promote further advances in trade agreements regarding food products. ▪ Promote formulas that prevent the exclusion of small producers from modern food production and marketing processes. ▪ Develop short- and medium-term policies. The short-term policies should focus on ensuring the continuity of the payment chain and on providing dollar liquidity for the financial system. Medium-term policy should be designed to promote countercyclical macroeconomic policies that include investment in infrastructure and logistics, encourage the diversification of export products and markets, and develop public-private partnerships for innovation and competitiveness, while improving the quality of markets and institutions.
Food safety and quality	<ul style="list-style-type: none"> ▪ Strengthen sanitary control systems to protect food safety. ▪ Maintain and improve strengthening programmes. ▪ Improve product quality, and invest in new technologies, training and hygiene.
Food aid	<ul style="list-style-type: none"> ▪ Provide a food supplement for pregnant women, wet nurses, nursing infants and preschool-age children, and promote breastfeeding. ▪ Provide school food programmes. ▪ Distribute money and/or food to populations living in extreme poverty. ▪ Create and/or improve systems to ensure a supply of food in emergency situations.
Nutrition and health information and knowledge	<ul style="list-style-type: none"> ▪ Expand the coverage of communications campaigns and educational programmes designed to promote healthy eating. ▪ Promote breastfeeding. ▪ Expand systems for the evaluation and monitoring of nutritional and food security programmes.

Source: Authors, based on Martínez, 2005 and ECLAC, 2008d.

2.1. Food security

(a). Income transfers:

The current crisis has a direct impact on economic vulnerability, significantly increasing individual job losses and reducing family incomes. This directly affects market access to food, and this situation is particularly severe in the case of foods whose prices already saw an increase in 2008. Monetary transfers can directly mitigate the resulting problem of access to food, and can have a visible short-term impact. Such interventions can be implemented quickly by governments and can be effective if there are adequate information systems that make it possible to reach the most vulnerable populations.

As indicated above, transfer programmes include conditions intended to increase the impact and positive effects of the income and social services benefits provided, thus simultaneously addressing short-term needs (income) and long-term ones (human capital and social protection). In other cases, transfers are simply an incentive to facilitate access to social services in health, education and nutrition.

In a crisis scenario such as the current one, one must ask whether conditional transfers are appropriate. One problem, demonstrated by a number of regional studies, is that much of the population is unable to meet eligibility criteria in countries or regions where available services are insufficient to meet the population's needs, and where any potential expansion of services could not be accomplished quickly enough to address an emergency situation.

More basic still is the question of whether, even if the required supply were present, the eligibility conditions could be administered adequately in an emergency situation. It should be noted that the "newly vulnerable" population group that could be created by the crisis is one that currently is not highly vulnerable and has considerable access to social protection networks. For population groups not connected to the social network, longer-term, rather than emergency, programmes would be necessary.

Thus, in the crisis scenario, the best alternative would seem to be unconditional income transfers, with measures taken to ensure that local markets have sufficient supply to meet the demand generated by the transfers; otherwise, there is a risk that the transfers will simply lead to greater inflation for products that are in high demand and short supply.

(b). In-kind transfers:

In-kind transfers also have the potential to mitigate the effects of the food crisis. This alternative (whether with or without conditions) has the advantage of directing the consumer to the foods provided and preventing the resources from being diverted to other types of purchases.

The form in which foods are delivered can vary according to what is available to the country, ranging from foods in their natural state to "special purpose" foods for specific groups (children, pregnant women, older adults, etc.) that are fortified to accommodate the needs of the target population.

The use of foods in their natural state requires that the beneficiaries' eating habits and cultural practices be taken into account. At the same time, the food basket must provide a minimum of calories and macronutrients. The use of native foods (quinoa, different types of maize or potatoes, amaranth, cassava, etc.) should be considered, since this approach can provide the population with ingredients and dishes closer to its traditions.

The distribution of the food should be accompanied by educational sessions designed to help beneficiaries make the best use of the food provided. Ideally, the education would take the form of cooking workshops and sessions on healthy eating, with informational materials (recipes, leaflets, etc.) provided for the literate population. Information on using parts of plants traditionally not eaten (peels, stalks, sprouts, roots, seeds, etc.) should be a basic part of the educational sessions, and should include recipes that make use of these ingredients.

The logistics involved in acquiring and distributing the food is important, especially in countries where a large portion of the most vulnerable population lives in rural areas in which a wide range of services is not available.

The pros and cons of the different approaches will depend on the characteristics of the country in question, and the nature of the areas most vulnerable to food shortages.

(c). Subsidies:

Consumption subsidies are designed to increase the demand for specific goods or services. Such subsidies are easy to implement for food purchasing, but require extensive coordination with the retail market, as well as a special system to monitor the foods market. If possible, subsidies should apply to specific foods that provide the recommended nutritional requirements and energy content.

Where there is established commerce and existing financial systems, vouchers or electronic check books can be used to enable beneficiaries to buy foods directly. This method limits the risk that the money will be used for other purposes.

(d). Food supplements:

Micronutrient supplements are a widely used strategy in the region. Such an approach requires identifying nutritional deficiencies, determining what micronutrients are to be supplied, defining the method by which they are to be delivered, deciding on the formulation to be used, etc. Examples of the use of food supplements and fortification are provided in chapter 4.6 (Nutritional Programmes).

Supplements are particularly advisable for infants, pregnant women and older adults, who, since they tend to be economically inactive and therefore lack access to income from the labour market, are more likely to be affected.

2.2. Economic policy

Although not directly associated with food and nutrition security, economic policy, when well applied, can be a highly useful tool for reducing the population's vulnerability—or, when poorly administered, can aggravate it. Among the lines of intervention that can have relatively rapid effects are the following:

(a). Job protection

One type of short-term measure is job protection, aimed at guaranteeing work for the population most affected by the crisis. This can take the form of unemployment insurance in countries that do not yet have such legislation, or expanded unemployment insurance (extended duration of benefits) in countries that do.

Government hiring is also utilized, at times, to mitigate the effects of economic crises in emergency situations. If a country has resources available for the purpose, it can stimulate the economy through new projects that hire workers left unemployed as a result of the crisis. However, elements such as the correct identification of individuals to be benefited, the type of activity to be carried out, and the duration of the work, are decisive in the success of such programmes. Hiring can be done directly by the government, or can be handled by third parties using government funds.

(b). Incentives for micro-agriculture production

Growing agricultural crops in urban areas is an option, both for subsistence and to allow families to generate additional income by selling their surplus production. Community gardens are recommended for this purpose. Such initiatives are used in some countries that permit micro-scale production of products for consumption and sale. Another type of initiative appropriate when physical space is limited is hydroponic or other vertical methods of growing vegetables and small fruits (e.g., berries). These are minimal-cost alternatives, since recyclable materials can be used (PVC pipes, plastic bottles, etc.). Specialized technical assistance is advisable for both the implementation and management of these agricultural alternatives.

Small-scale livestock and poultry operations can be initiated by providing pairs of animals, and can be designed either for consumption, or with a view to selling by-products (eggs, milk, meat). Such programmes can provide access to protein-rich foods of high biological value, in addition to micronutrients essential to health, such as iron and calcium. These initiatives must be

accompanied by guidance and specialized technical assistance on management and care of the animals, and on marketing of the by-products.

(c). Access to credit as a means of funding improved living conditions

Access to microcredits, primarily in urban areas, can encourage the development of small businesses designed for the subsistence of the nuclear family. Low interest rates, as well as provisions for renegotiating debt in the case of failure to meet obligations, are essential for the success of such initiatives. In general, institutions working with microcredits have had positive experience with regard to repayment of the loans.

In the case of small farmers, lines of credit with interest rates below those in the formal market serve as an incentive to production. Low interest rates and favourable payment terms, along with ongoing technical assistance (regarding type of investment, crop management, monitoring of production processes, etc.) are essential to success in this type of initiative.

(d). Reduction of personal taxes

Temporary reduction of value added taxes (VAT), taxes on foreign currency and/or other personal taxes can increase income in times of crisis. As mentioned earlier in this chapter, reducing taxes on basic foods, such as fruits, vegetables and dairy products (depending on the customs of the country) is especially important. Such initiatives facilitate access to food in greater quantity and of higher nutritional quality.

Tax reductions and restrictions on foods acquired for humanitarian purposes are also important as a means of improving food access.

2.3. Policy related to climate change

(a). Environmental protection and hygiene

Information delivered directly or through media campaigns is recommended to provide training in hygienic practices and sustainable waste management. This helps reduce the incidence of food-borne diseases, while also providing an opportunity to educate people about ways of reducing human impact on the environment.

(b). Provision of inputs and technical advice for micro and small agricultural producers

Specialized technical advice should focus on crop productivity, soil and water management, conservation of natural resources, good agricultural practices, diversified production and crop rotation, proper storage, and good marketing practices.

It is important to reduce post-harvest losses through proper storage and transportation practices. It is also essential to take advantage of the parts of foods habitually discarded by producers—such as leaves, peels and stalks—that can be used in the animal feed industry. This requires implementing a chain of processes to enable small farmers or associations of farmers to market their agricultural waste products.

3. Concluding remarks

As this document reflects, the food and nutrition problems of the Latin American and Caribbean region are far from being resolved. Enormous segments of the population are affected by hunger and undernutrition, while at the same time malnutrition, in the form of overeating, is increasing daily. This situation is not an isolated problem, but, rather, a further reflection of the great inequalities of income and social protection in the different countries, with extremely poor populations living side by side with groups enjoying the benefits of wealth and economic development. Thus, we face not simply the food, nutrition or social problems of a particular group, but also a moral and economic problem that involves the entire population. As the United Nations Secretary General has stated, “Child hunger is a moral issue. But... it is also a critical economic concern” (Ban Ki-moon, 2007).

After a number of years of significant advances in reducing child undernutrition, major progress has been stalled since the 1990s, and has even been reversed in some countries. Since 2007, the situation has become even more complex, first with the food crisis, and then, in 2008, with the financial and economic crisis. Meanwhile, climate change is increasing the environmental risks.

After the recession of the early 1980s, the region took 14 years to regain its former levels of per capita income, but it took 25 years to return to previous poverty levels. Today’s economic scenario does not appear to be any better in this regard. On the contrary, the risks are greater, since this crisis has its origin in the developed world. Thus, the developed economies are in recession, at the same time as growth in most of the LAC countries is nil or negative, and projections for the current year point to growing unemployment, increased labour informality, declining remittances, and a potential flow of migrant workers returning to their countries of origin. All of these factors increase pressures on the countries’ social protection systems, which already suffer from deficits, thus increasing the vulnerability of the poor population and the number of vulnerable individuals in need of assistance.

The rise in food prices appeared to be weakening with the economic crisis, but data from the last few months indicates otherwise. Prices are increasing again, although they are still near their 2006 and 2007 averages (except for sugar, which has risen more than the other basic foods). The fuel price scenario is similar. Thus, we may be witnessing a confirmation of the prediction, made by FAO in the middle of last year, that food prices are here to stay.

On the whole, this year’s combination of greater economic vulnerability and high food prices presents a more complex, and even more urgent, challenge than the region already faced, given that crises on three fronts are reinforcing each other.

While countries have sought alternatives to mitigate the effects of the crisis, concern has been focused on the financial problem and its impact on personal incomes. It must also be borne in mind that climate change is a growing problem with major consequences for food production and, thus, for food prices. Measures must be taken to address the lack of food and the potential increase in undernutrition resulting from the developing situation, as well as to mitigate the long-term effects of climate change and its impact on the availability of food.

Important work remains to be done in developing initiatives, defining projects and improving inter-institutional coordination to make policy more cost effective. Given the present circumstances, in which the problem of hunger and undernutrition has been aggravated by the crisis, there must be a redoubling of attempts to place the issue on the region’s economic agenda. This may be an opportunity to garner commitments from other stakeholders in efforts to find solutions to, and mitigate damages from, the crisis.

Which policy alternatives are appropriate for specific countries will depend on epidemiological, socioeconomic and environmental factors, and the policies must be tailored accordingly. The crisis can serve as an opportunity to call attention to the problem of food security and undernutrition affecting large segments of the region's population.

Finally, it is worth remembering that “[I]t is cheaper to invest in eradicating child undernutrition in the region than to suffer the social and economic consequences. Accomplishing this requires not only resources, technically well defined policies and management models that maximize impact and efficiency, but also the commitment and active participation of all sectors of society” (Martínez, R., 2008).

Working to achieve food and nutrition security is not a cost, but rather an investment. The true cost lies in not making the investment. Vulnerability is a long-term social and economic liability, and puts the countries' political stability at risk.

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Annexes

Annex 1

FOOD CONSUMPTION AS A PERCENTAGE OF TOTAL HOUSEHOLD CONSUMPTION IN SOME LAC COUNTRIES (MOST RECENT YEAR AVAILABLE)

Country	Geographical area	% of spending devoted to food
Argentina	National (2004)	33.4
	Rural	no data
	Urban	32.8
Brazil	National (2002)	20.8
	Rural	34.1
	Urban	19.6
Chile	National (2006)	22.5
	Rural	no data
	Urban	no data
Colombia	National (1990)	28
	Rural	no data
	Urban	no data
Costa Rica ^a	National (2004)	30.6
	Rural	36.4
	Urban	28.6
Ecuador	National (2005)	30.6
	Rural	44
	Urban	27.2
Guatemala	National (1998)	37.1
	Rural	46.9
	Urban	31.6
Haiti	National (2000)	57.5
	Rural	68.6
	Urban	53.4
Mexico ^a	National (2004)	34
	Rural	no data
	Urban	no data
Nicaragua	National (2001)	47.6
	Rural	58.1
	Urban	43.8
Panama	National (1999)	25.8
	Rural	no data
	Urban (1997)	25.8
Peru	National (2005)	31.8
	Rural	51.6
	Urban	27.2
Uruguay	National	no data
	Rural	no data
	Urban (2005)	24
Venezuela	National (1990)	29
	Rural	no data
	Urban (1997)	36

Source: FAO.

^a Includes tobacco.

Annex 2

**SELECTED FOOD, NUTRITION AND DEVELOPMENT INDICATORS IN THE LAC REGION, BY COUNTRY,
CATEGORY OF UNDERNUTRITION AND INCOME**

Category of undernutrition by income group	Per capita energy provided	Contribution of food groups				Respective caloric contribution of different nutrients						Agriculture as percentage of GDP	Urban population	Child malnutrition (most recent)	
		G	R&T	O&F	AP	Carbohydrates			Proteins		Fats	2005		Underweight	Retarded growth
Region/country	Kcal/day	% Kcal				% Kcal						%	%	%	%
35% OR MORE OF POPULATION UNDERNOURISHED															
Haiti	1 840	49	8	6	7	76	A	9	L	15	L	28	38	22	24
20 to 34% OF POPULATION UNDERNOURISHED															
Bolivia	2 170	41	7	10	16	66	R	10	L	24	R	14	64	8	27
Nicaragua	2 350	53	1	9	10	70	R	10	R	20	R	19	59	10	20
Dominican Rep.	2 300	29	3	18	14	61	R	9	L	30	A	12	66	5	7
10 to 19% OF POPULATION UNDERNOURISHED															
Lower middle income															
Colombia	2 670	34	6	12	16	68	R	9	L	23	R	12	72	7	12
Ecuador	2 300	33	3	19	18	58	R	10	L	32	H	7	62	9	23
El Salvador	2 530	50	2	8	11	69	R	11	R	20	R	11	60	10	19
Guatemala	2 270	52	1	9	8	69	R	10	L	21	R	234	47	23	49
Honduras	2 590	46	1	11	13	67	R	10	L	23	R	14	46	11	25
Paraguay	2 590	29	14	17	15	58	R	10	L	32	H	22	58	5	14
Peru	2 450	44	14	6	11	73	R	11	R	16	R	7	72	8	24
Upper middle income															
Panama	2 390	43	2	12	17	65	R	11	R	23	R	2	70	8	18
Venezuela (Boliv. Rep. of)	2 450	38	3	17	15	63	R	11	R	27	R	4	93	5	13

Annex 2 (conclusión)

Category of undernutrition by income group	Per capita energy provided	Contribution of food groups				Respective caloric contribution of different nutrients						Agriculture as percentage of GDP	Urban population	Child malnutrition (most recent)	
		G	R&T	O&F	AP	Carbohydrates		Proteins		Fats				2005	Underweight
Region/country	Kcal/day	% Kcal				% Kcal						%	%	%	%
<i>High-income</i>															
Trinidad and Tobago	2 760	36	2	13	14	65	R	10	L	25	R	1	12	6	4
5 to 9 % OF POPULATION UNDERNOURISHED															
<i>Lower middle income</i>															
Guyana	2 830	46	4	6	16	69	R	11	R	20	R	31	28	14	11
<i>Upper middle income</i>															
Brazil	3 090	33	4	15	20	59	R	11	R	30	H	6	84	6	11
Jamaica	2 810	32	6	13	17	62	R	11	R	27	R	6	53	4	3
Suriname	2 710	41	2	14	11	67	R	9	L	24	R	6	74	13	10
UNDER 5% OF POPULATION UNDERNOURISHED															
<i>Upper middle income</i>															
Argentina	3 000	35	3	12	26	59	R	12	R		R	9	90	4	4
Chile	2 980	39	3	13	20	60	R	11	R		R	4	87	1	1
Costa Rica	2 790	34	2	14	17	64	R	10	L		R	9	61	5	6
Cuba	3 280	41	8	6	9	76	H	10	L		L	...	76	4	5
Mexico	3 270	44	1	10	17	63	R	11	R		R	4	76	5	13
Uruguay	2 920	42	4	9	23	63	R	12	R		R	9	92	5	11

Source: FAO, 2008a.

1. The countries are classified according to income, using the World Bank criteria. For operational and analytical purposes, the World Bank has classified countries according to 2007 per capita gross national income, calculated by the World Bank Atlas method. The groups are as follows: Low income: US\$ 935 or less; lower middle income: US\$ 963-US\$ 3,705; upper middle income: US\$ 3,706-US\$ 11,455; high income: US\$ 11,456 or more.

2. Principal food groups: G: grains; R&T: roots and tubers; O&F oils and fats; AP: animal products, excepting fats. Not shown: other plant products (legumes, nuts, oilseeds, sweeteners, fruits, vegetables and seasonings). Animal products include: meat, entrails, dairy products, eggs and fish for human consumption. H = high proportion, above 75%, 15% and 30% for carbohydrates, proteins and fats, respectively; R= recommended proportion within the recommended range; L = low proportion, under 55%, 10% and 15% of carbohydrates, protein and fats, respectively.

Unless otherwise indicated, data are for 2003-2005.

Annex 3

PERCENTAGE OF TOTAL FOOD ENERGY INTAKE SUPPLIED BY DIFFERENT FOOD GROUPS IN VARIOUS LAC COUNTRIES, 2003-2005

Country	Grains	Meat	Sugar and sweets	Vegetable oil	Milk	Fruits	Vegetables	Animal fats	Tubers	Oleaginous crops	Alcoholic beverages	Root starches	Animal products ^a	Plant products
Haiti	49	4	11	6		6			5		4	8	4	68
Peru	44	4	9	5	3	6			3		2	14	7	67
Cuba	41	5	17	5	4	6			7			8	9	62
Nicaragua	53	4	15	9	6				6				10	59
El Salvador	50	3	15	5	6	4		3	5				9	59
Guatemala	52	4	18	8	3	3			4				7	59
Honduras	46	6	17	9	6	6			4				12	56
Mexico	44	9	15	8	5	4		2	4				14	52
Panama	43	8	12	9	7	5		3			3	2	15	50
Uruguay	42	13	12	7	8	3					3	4	21	49
Ecuador	33	9	8	15	7	13		4				3	16	49
Bolivia (Plurinational State of)	41	11	13	6	3			3				7	14	48
Colombia	34	6	19	10	8	8						6	14	48
Chile	39	12	15		5	2	3	11				3	17	47
Paraguay	29	7	10	14	5			3	4	3	4	14	12	47
Brazil	33	12	13	13	6	4			5			4	18	46
Venezuela (Bolivarian Rep. of)	38	8	15	15	4	4					5	3	12	45
Argentina	35	16	16	10	7	6					3	3	23	44
Jamaica	32	9	18	11	7	6		2		2		6	16	44
Dominican Rep.	29	7	16	17	5	9			4		4		12	42
Costa Rica	34	5	20	11	10	4		3	3				15	41

Source: Food Security Statistics. FAOSTAT.

^a Includes meat and milk.

^b Includes grains, fruits, vegetables, tubers, root starches.

Annex 4

ECONOMIC FORECAST FOR LAC REGION

	2007	2008	2009	2010	2011
A. Real spending					
1. Real GDP	5.8	4.2	-2.2	2.0	3.3
2. Private consumption	4.0	4.6	-0.9	2.3	3.5
3. Public consumption	3.5	4.4	3.1	3.3	3.0
4. Fixed investment	21.3	11.6	-10.1	0.8	4.4
5. Goods and services exports	5.0	1.6	-7.7	2.3	5.1
6. Goods and services imports	12.2	8.8	-9.0	2.9	5.9
B. Components of GDP					
1. Private consumption	2.7	3.0	-0.6	1.5	2.3
2. Public consumption	0.5	0.6	0.4	0.5	0.4
3. Fixed investment	4.2	2.6	-2.5	0.2	1.0
4. External balance	-1.9	-2.0	0.8	-0.3	-0.5
C. Price deflators					
1. GDP at market prices	10.6	13.4	-12.7	6.6	9.5
2. Private consumption	1.2	1.4	1.2	1.3	1.4
3. Goods and services exports	3.7	19.3	-15.0	1.9	2.7
4. Goods and services imports	2.5	14.7	-6.8	1.4	1.9
D. Proportion of GDP (%)					
1. Private consumption	59.2	58.2	61.1	61.3	61.2
2. Public consumption	16.9	17.1	17.6	17.7	17.4
3. Fixed investment	22.4	24.0	22.4	22.1	22.4
4. Change in stocks	0.8	0.7	0.7	0.7	0.6
5. Total investment	23.2	24.7	23.1	22.8	23.0
6. Goods and services exports	24.2	24.9	22.9	21.9	20.9
7. Goods and services imports	23.2	24.5	24.4	23.4	22.3
E. Informational items					
1. Nominal GDP (US\$ billions)	3 427	4 051	3 458	3 759	4 255
2. Population (millions)	552	559	566	573	580
3. Per capita GDP, US\$	6 209	7 248	6 111	6 560	7 335
4. Real per capita income (var.)	4.4	2.9	-3.4	0.7	2.1
5. Exchange rate
6. Current account balance (% GDP)	0.4	-0.7	-2.3	-2.1	-1.9
7. Gen. Govt. Balance (% GDP)	1.2	0.3	-2.4	-1.6	-0.6

Source: World Bank. Available at: <http://web.worldbank.org/WBSITE/EXTERNAL/BANCOMUNDIAL/EXTDECPGSPA/EXTGBLPROSPECTSPA/EXTCHLGBLPROSPECTSPA/0,,contentMDK:20707314~menuPK:627053~pagePK:51449435~piPK:4711852~theSitePK:627004,00.ht>.