



FAO Regional Office for Europe and Central Asia

UNDP Regional Bureau for Europe and CIS



# **FOOD PRICE FLUCTUATIONS, POLICIES AND RURAL DEVELOPMENT IN EUROPE AND CENTRAL ASIA**

**FAO-UNDP Europe and Central Asia Regional Consultation**

**5-6 December 2008, Budapest Hungary**





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POLICIES AND RURAL  
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**John Barker, David Sedik and Joseph G. Nagy,  
Proceedings Editors**

**Food and Agriculture Organization of the UN  
Rome, 2009**

Published in 2009 by the  
**Food and Agriculture Organization of the United Nations**

Viale delle Terme di Caracalla, 00153 Rome, Italy

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ISBN 978-92-106376-7

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## FOREWORD

In common with other parts of the world, Europe and Central Asian countries experienced sharp increases in prices for major food commodities such as grains and vegetable oils in 2007 and the first half of 2008. The FAO Food Price Index of commodity prices, for example, increased 57% over the period March 2007 to March 2008 compared to a 9% increase in 2006.

Many factors have contributed to the sharp increase in major food commodity prices. Some factors reflect underlying trends in supply and demand that have gradually occurred over the last decade such as population growth, intensity of agricultural research funding, and rising incomes and changing tastes. Other factors reflect more recent short-term shocks to global supply and demand for agricultural products such as high energy price spikes and poor harvests due to adverse weather conditions. Both long and short term factors contributed to the spectacular fluctuations in the price of wheat, a main staple food commodity in Eastern Europe and Central Asia. The world price of wheat doubled within a year and then decreased by 40% in mid 2008, mainly because of better harvest forecasts around the world.

Whatever the factors behind the cause of higher food prices, their effects are different across countries within the region and across population groups. The effects depend on the income level of a country and if a country is a food deficit country or a net food exporter. The people most affected are likely to be net food buyers, including the significant numbers of small-scale farmers and poor households who rely on markets for their food needs.

The many factors that have caused the recent fluctuations in food prices and their effect on the different groups within society are complex and merit further study and understanding in order to determine appropriate short and longer-term measures to reduce the impact of soaring food prices. Moreover, countries are in need of more information about the options that are available to reduce the impact of soaring food prices.

With the above in mind, the FAO Regional Office for Europe and Central Asia launched in 2008 a regional consultation on soaring food prices. The consultation was undertaken in two parts. First, an analytical study was conducted involving several countries from the region with the objective of: (i) documenting the food price surge, (ii) documenting the impact of high food prices on different groups in society, (iii) identifying the policies that governments have in place or are contemplating to deal with the factors causing high food prices and the impact of high food prices, and (iv) proposing further policy measures for governments. Second, a regional consultation was held in Budapest in December 2008, with participants from countries from Eastern Europe and Central Asia, to review the findings of the study and to discuss appropriate short and long term policy actions. The principal contributions to the Consultation, as well as conclusions reached through discussion and sharing of experience, follow. We hope that this volume will contribute to a better understanding of the Soaring Food Price issue, its effects and context.

Ms Maria Kadlecikova  
Assistant Director General and  
Regional Representative for Europe and Central Asia

## FOREWORD

The post-communist transition in Europe and Central Asia introduced new rural urban imbalances. While cities benefited from foreign investment and private enterprise, collective farms and their social infrastructure collapsed. Poverty and unemployment rates in rural areas have worsened; and volatile food prices have generated food insecurity fears. In this regard, the state needs to move the reform agenda forward, balancing microeconomic support with an effective enabling environment. The state has a role in promoting extension services, enforcing grades and standards, providing support for rural business development, and land market reforms.

Some of these important questions are examined in several of the chapters in the workshop proceedings. The chapter on Land Reform, Transition, and Rural Development provides an overview of land and reform policies in the Europe and Central Asia region and analyses how successful they were at reducing poverty. An examination of how EU accession might impact on rural business in Croatia is presented in the chapter on Rural Business in Croatia and EU Accession. The Chapter on Rural Development, Food Prices, and Regional Disparities, concludes that, along with land and farm reforms, liberalization of agriculture markets, privatization of agricultural services, establishment of institutional structures for market agriculture, and the development of rural finance must all play a role.

Our cooperation, as illustrated by this joint consultative workshop on food price fluctuations, policies and rural development, illustrates how UNDP and FAO are working together to provide quality analysis of rural development and food issues.

Jens Wandel  
Deputy Director  
UNDP Regional Bureau for  
Europe and the CIS  
United Nations Development Programme

## 1. INTRODUCTION

Europe and Central Asian countries experienced extreme price volatility for major food commodities such as grains and vegetable oils in the period 2006-2008. In response, the Director General, FAO launched the Initiative on Soaring Food Prices (ISFP) in December, 2007. This initiative aimed at assisting member countries to put in place short and longer-term measures to reduce the impact of soaring food prices. This initiative extends to 79 countries. Seeds and fertilizers have already been distributed. Beneficiaries of this initiative in Europe and Central Asia include Armenia, Moldova and Kyrgyzstan.

These developments were then followed by a rapid fall in global food prices in the second half of 2008, as a result of exceptionally good harvests around the world and as part of the unfolding global financial crisis. Food prices fell by 14 percent although the Food Price Index in September 2008 was still 51 percent, higher than its comparative value in September 2006. On the other hand, inputs prices have doubled, even tripled, and have become basically inaccessible for small farmers.

The recent reduction in food prices should not be interpreted as the end of the food crisis. It is more a reflection of current lower demand associated with the global economic slowdown rather than of an adequate increase in supply. With only 433 million tons of opening stocks, the cereal stock-to-utilization ratio is at its second lowest level in 30 years. Even more seriously, the downturn in prices could reduce food production in 2009/2010 which would in turn provoke another food crisis. Such volatility, rather than simple upward or downward trends, will characterize future prices.

FAO latest data on food insecurity indicated that in 2007 alone, mainly because of higher prices, the number of hungry people in the world has risen by 75 million instead of falling by the 45 million needed to meet the commitment of the World Food Summit held in 2006.

The sharp fluctuations in food prices over the past two years underscore the important links between food prices, agricultural production, and global economic trends on the one hand, and poverty reduction and sustainable rural development on the other. In this respect, UNDP, together with the London School of Economics, published a special issue of the *Development and Transition* newsletter ([www.developmentandtransition.net](http://www.developmentandtransition.net)) in December 2008 on rural development and food security, and FAO published a study on the price surge of 2006-08 and rural development.

With a view to understanding better both the causes of the current instability and identifying possible long term solutions, the FAO Regional Office for Europe and Central Asia and the UNDP Regional Bureau for Europe and CIS held a regional consultation on **Food Price Fluctuations, Policies and Rural Development in Europe and Central Asia** in December 2008. The consultation shared with representatives from countries in the Europe and Central Asian region some recent results of FAO and UNDP-sponsored policy research on the topic of soaring food prices and agricultural and rural development.

The consultation highlighted three fundamental issues that have impacted and will continue to impact on rural areas recently:

- commodity and food price fluctuations,
- turmoil in financial markets and
- agricultural policies and rural development.

The Consultation is part of FAO's ongoing work to assist governments in this region to achieve Millennium Goal 1 (MDG 1) on alleviation of poverty and food insecurity. Policies, and changes in the economic climate, can impact profoundly on rural livelihoods and on the ability of governments to achieve MDG 1.

The agenda of the Consultation was as follows:

### FAO-UNDP Consultation on Food Price Fluctuations, Policies and Rural Development in Europe and Central Asia

#### Thursday, 4 December 2008

Arrival of participants

#### Friday, 5 December 2008

##### Session 1 Opening Session

Chair: Ms. Maria Kadlecikova, AGD Regional Representative for Europe and Central Asia

9.00-9.15	<b>Opening and Welcome</b> Ms. Maria Kadlecikova, ADG Regional Representative
9.15-9.30	<b>Welcome</b> Mr. Jens Wandel Deputy Director, UNDP Regional Bureau for Europe and CIS
9.30-9.40	<b>Introduction to the Consultation</b> David Sedik, FAO Senior Agricultural Policy Officer

##### Session 2 Soaring prices in Europe and Central Asia

Chair: Mr. Joseph Nagy, FAO Investment Officer

9.50-10.20	<b>Fluctuating World Food Prices 2006-2008: Situation and Impact, Contributing Factors, and Appropriate Policy Responses</b> John Barker, RELEX, Skopje
10.20-10.50	<b>Food prices and the regional implications of the global financial crisis</b> Ben Slay, senior economist, UNDP Regional Bureau for Europe and CIS
10.50-11.20	<b>Coffee</b>
11.20-11.40	<b>Volatile commodity prices and policy responses in Georgia</b> Rati Shavgulidze, Georgia
11.40-12.10	<b>Impact of the global financial crisis on Russian and Kazakh agriculture</b> Evgenia Serova, Senior Adviser to Director of Investment Centre, FAO
12.10-12.30	<b>Discussion</b>
12.30-14.00	<b>Lunch Break</b>

##### Session 3 Responses to and effects of soaring prices in Europe and Central Asia

Chair: Mr. David Sedik, FAO Senior Agricultural Policy Officer

14.00-14.20	<b>Food Prices and Agri-Food Markets</b> Peter Toth, Agrar Europa Ltd., Budapest, Hungary
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14.20-14.40	<b>Volatile commodity prices and policy responses in Moldova</b> Victor Moroz, Research manager, Business Consulting Institute, Moldova
14.40-15.00	<b>Volatile commodity prices and policy responses in Armenia</b> Gagik Gabrielyan, Armenia
15.00-15.30	<b>Coffee Break</b>
15.30-16.00	<b>Discussion</b>
16.00-16.30	<b>First Day Wrap Up</b> Chair

### Saturday, 6 December 2008

#### **Session 4 Agriculture and Rural Development in the region** **Chair: Ben Slay, Senior economist, UNDP**

9.00 -9.20	<b>Land reform and rural development in Europe and Central Asia</b> David Sedik, FAO Senior Agricultural Policy Officer
9.20-9.40	<b>Rural development, food prices and regional disparities</b> Susanne Milcher, UNDP
9.40-10.10	<b>Coffee</b>
10.10-10.30	<b>Rural business development in Croatia: Lagging or leading?</b> Ricardo Pinto, Stratagem Consulting International
10.30-10.50	<b>Rural development and EU accession: Lessons learned</b> Richard Eberlin, FAO Land Tenure and Rural Development Officer
10.50 -11.15	<b>Discussion</b>
11.15-11.30	<b>Conference day wrap up</b> Chair

Participants at the Consultation included representatives of eight European and Central Asian countries that have been directly affected by the food price fluctuations, as well as senior representatives of UNDP and FAO and various national specialists and consultants (see Annex 1 for consultation participants).

## 2. FLUCTUATING WORLD FOOD PRICES 2006-2008: SITUATION AND IMPACT, CONTRIBUTING FACTORS, AND APPROPRIATE POLICY RESPONSES

JOHN BARKER<sup>1</sup>

### Summary

Had this paper been prepared in mid 2008 rather than towards the end of that year, its emphasis would have been much more focused on price increases, rather than price volatility. This is because from 2006 to mid 2008 almost every country and certainly region in the world was significantly affected by sharp increases in prices for food commodities and products. However, in the second half of 2008 that trend has been reversed with significant decreases in all major food commodities. It remains to be seen to what extent this reversal will be replicated in the price of food products.

Irrespective of the recent price reductions, the extent of the volatility of international prices of many basic food commodities in the time period 2006 to 2008 raises many questions across a broad cross section of society; particularly among policy makers, the media and the general public. Within the latter group, there is a large sub-sector of low income families who have had to make often very painful adjustments to cope with the consequences of their reduced purchasing power, involving in some cases reduced consumption of their basic sources of sustenance. Many farmers, conversely, have had the opportunity to benefit from the situation.

This paper is designed to review the recent period where both food and commodity prices have fluctuated dramatically, identifying both the reasons underlying the volatility, as well as its impact on different sectors of society. It proposes also policy options for future consideration in both food surplus and food deficit countries, with the objective of learning from the experience of the last three years. The paper reviews, consecutively, the price changes throughout the period 2006-2008, their impact across society, the major factors contributing to that volatility, and the lessons that can be learned and translated into policy responses.

The impact of substantial increases in fuel and food prices varies significantly with respect to foreign exchange earnings, incomes, and welfare between countries; depending upon the nature and extent of resources they are endowed with and the constraints that their economies face. However, it is fundamentally clear that net importers of both fuel and food have been particularly adversely affected in the period 2006-2008.

Another factor that is highly relevant in this respect is that whereas food commodity prices have reacted immediately and sometimes spectacularly to imbalances in supply and demand in the last three years, this has not been reflected either so quickly or to the same extent in the prices of food products.

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<sup>1</sup> John Barker is a staff member of the European Commission, currently based in the EU Mission in Skopje as Advisor for Agriculture and Rural Development. This paper was prepared for the FAO Regional Office for Europe and Central Asia as part of its regional consultation on soaring food prices. The views presented in this paper represent the personal views of the author and can be in no way attributed as an official position or policy of the European Commission.

Many different factors have combined to contribute to the volatility of food price levels throughout the world since 2006. Contributing factors have included a succession of poor harvests in various parts of the world that have particular significance for agricultural production (especially crops), increasing usage of and allocations of land for production of bio fuels, steadily decreasing levels of food reserves throughout the world, growing consumer demand in Asia, oil price rises, and other changes to the world economy. Agricultural subsidies in developed nations are another long-term factor often associated with high global food prices.

Other, arguably transitory, factors are supply shocks that can be attributed both to the weather and to changes in policies of the exporting countries. Given the relatively small number of primary grain exporting countries, the effects of adverse weather conditions in a relatively small number of countries can have a quite dramatic effect on the trade balance for a range of commodities. Coupled with the effects associated with climate change, this becomes a significant factor even in the longer term.

Policy responses since 2006 have ranged from those with an immediate focus, such as increasing food aid, to those with longer term objectives, such as improving agricultural yields. Some responses, such as the development of regional grain pools, or research into improved crop varieties, offer far greater potential for collaboration across countries than others. At the same time, policies such as export restrictions, that are designed to safeguard consumers in one country, may end up having adverse consequences for consumers in other countries.

Several food exporting countries have restricted their exports of staple cereals. These restrictions are intended to lower prices in the domestic market and to therefore benefit domestic consumers, irrespective of their need. However, as farmers are unable to sell at the more profitable world price, the incentive to produce more is reduced. This becomes even more significant in the current context when the prices of fertilizers, seeds and other inputs have risen. The reduction in grain availability on the world market tends also to increase the world price, thus imposing a negative externality on other countries.

For countries that are net food importers, the short term impact of price rises is often manifested in less favourable terms of trade. An immediate concern for such countries is meeting higher import bills. Several countries that import food have responded to the crisis by lowering or eliminating tariffs on such imports. These measures can reduce to a certain extent the rise in prices faced by the consumer, but they also result in a loss in revenue for the government. For the countries that are worst affected by soaring world food prices, the immediate emergency response may be food aid. Such aid ameliorates the current crisis but, by lowering domestic prices, also reduces the incentives of local producers to grow for the next season.

A sharp increase in the price of food affects the poor to a much greater extent than a similar increase in the price of other goods because food forms a much larger share of their total purchases. Faced with an increase in the price of staples, poor households will respond by substituting away from other items in their consumption basket. A common policy response to this situation is to subsidize the price paid by consumers, either through a general subsidy or a more narrowly targeted programme. General subsidies are less efficient than targeted ones, and can also reduce producer incentives by lowering prices. They may also be accompanied by a greater fiscal strain than a targeted programme. However, targeted subsidy programmes require time and money to set up and administer, and a blanket subsidy may be an appropriate short term response with a limited time mandate.

Buffer stocks, if used strategically, can lower prices and volatility. However, they require infrastructure and skills to procure, hold, and manage the stocks. In considering buffer stocks as a policy option, it is essential to weigh their associated costs against the potential of the market to provide a timely response to an unexpected shortfall. If it is expected that production shocks are likely to be correlated across suppliers in the market, then building up a grain reserve might turn out to be a useful insurance mechanism for a country (or a group of countries). Any build up should be gradual, to avoid or at least minimise further price escalation. Alternatives such as regional grain pools are possible, although their utility will be limited if production shocks are correlated across countries in the region.

Any long term sustained response to food shortages must come in the form of increased production of food grains. However, the past decades have been marked by declining public and private investments in agriculture, especially in staple food production. There are well documented and significant reductions in government spending on agricultural research and extension services, for example, that have a long term negative impact on the potential for farmers, particularly at the small scale subsistence level, to increase their productivity,. It has also diminished the capacity of agricultural systems generally to respond efficiently to the crisis.

This reduced investment is one reason why higher prices, while being a strong incentive to farmers to increase production at least in the short term, may not in themselves be enough. It is highly likely that if market prices go down, as in 2008, there will quickly be a reduction in production since farmers are archetypical price followers. Public investments need to be concentrated at the small scale level; small scale irrigation and extension services for example. Much of the world's farming activity occurs on smallholder farms, with production at or below subsistence levels. Technology exists to boost productivity on these farms. However, such farmers have low assets, are often outside formal credit markets, and have high degrees of risk aversion that make it difficult for them to make even the initial investments that would increase production.

National governments and international actors are currently taking various steps to try to minimize the effects of higher international prices on domestic prices and to mitigate impacts on particular groups. Some of these actions are likely to help stabilize and reduce food prices, whereas others may help certain groups at the expense of others and/or might actually make food prices more volatile in the long run and seriously distort trade. What is needed, as a longer term activity, is effective and coherent action to help the most vulnerable populations cope with the drastic and immediate hikes in their food bills and at the same time help farmers to meet the rising demand for agricultural products.

Any long term strategy to stabilize food prices must include measures to increase agricultural production; price controls fail to send to farmers market signals that encourage them to produce more. In addition, by benefiting all consumers, even those who can afford higher food prices, price controls inefficiently divert resources toward helping a significant proportion of the population who do not in fact require assistance. Export restrictions and import subsidies also have harmful effects on trading partners that are dependent on imports.

Also, trade restricting policies undermine further the benefits of global integration, as the existing trade distortions of more developed countries with respect to developing countries are increased yet further by the interventions of developing countries against each other. There is, in consequence, a real need, at a time when the price surge, at least for food commodities, has abated to review dispassionately and objectively, the experiences of the last three years and to use that experience to develop more effective policies to strengthen market resistance to supply demand imbalances in the future.

The policy issues that are discussed, and the policy options that are proposed, in this paper are justified at least for serious consideration by the recent experiences felt throughout the world as a result of the surge in food prices. Even if, for the short term at least, market prices for food commodities have returned to more or less normal levels, it cannot and must not be assumed that price surges will not happen again.

World agriculture continues to face challenges that, along with other existing forces, pose risks for poor people's livelihoods and food security. Land is now in demand, not only to produce food and to provide shelter and comfort for the world's population, but also in significant quantities for production of energy in various ways. The arguments presented in this paper suggest that in response to the lessons learned from the latest period of spectacular price volatility in the world food market, policy initiatives in three areas are justified:

- Comprehensive and above all sustainable social protection and food and nutrition initiatives to meet the short and medium term needs of the poor and to serve as the basis for emergency response channels in times of food crises;
- Broad based investment in agriculture, particularly in agricultural research, technology, and extension and in market access, at a national and international scale to address the long term challenge of increasing supply; and
- Trade policy reforms, in which both developed and developing countries revise their agricultural trade, and where relevant bio fuel, policies.

## **1. Introduction: Situation and Impact**

The recent extent of the volatility of international prices of many basic food commodities raises many questions across a broad cross section of society; policy makers, the media and the general public. Within the latter group, there is a large sub-sector of low income families who have had to make often very painful adjustments to cope with the consequences of their reduced purchasing power, involving in some cases reduced consumption of their basic sources of sustenance. Conversely, many farmers have had the opportunity to benefit from the situation.

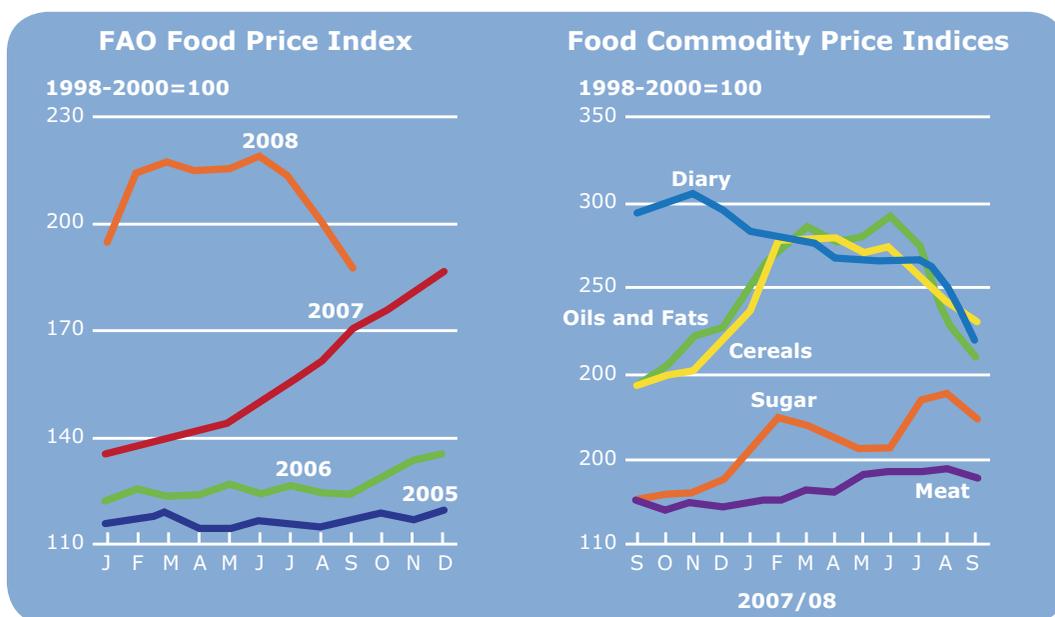
This paper is designed to review the recent period where both food and commodity prices have fluctuated dramatically, identifying both the reasons underlying the volatility, as well as its impact on different sectors of society. It proposes also policy options for future consideration in both food surplus and food deficit countries, with the objective of learning from the experience of the last three years. The paper reviews, consecutively, the price changes throughout the period 2006-2008, their impact across society, the major factors contributing to that volatility, and the lessons that can be learned and translated into policy responses.

### **1.1 Recent Volatility**

Had this paper been written even only in mid 2008, its emphasis would have been much more focused on price increases, rather than price volatility. This is because from 2006 to mid 2008 almost every country and certainly region in the world was significantly affected by sharp increases in prices for food commodities and products. It is necessary only to refer to the FAO Food Price Index (FFPI) to illustrate clearly the extent of the recent increases. Following an overall increase of 9 percent in commodity prices from 2005-2006; for 2006-2007 the respective increase was 23 percent. The annual increase

from March 2007 to March 2008 is even more dramatic; 57 percent. Among individual commodities, the greatest increase in prices occurred for dairy products; 80 percent for the period 2006-2007. This was followed by oils with an increase of 50 percent and grains with an increase of 42 percent. However, as can be seen clearly in Figure 1, in the second half of 2008 the current trend is downwards with significant decreases in all major food commodities.

**Figure 1: Food Price Indices to end September 2008**



The recent sharp decline in the FFPI reflects the rapid decrease in international prices of all major food and feed commodities. The FFPI had risen steadily since early 2006, climbing to a record 219 points in June 2008. However, the decline must be taken in context; in spite of its continuing decline since that month, the FFPI was still up 11 points from its value of September 2007 and as much as 51 percent above the level of September 2006.

Considering individual commodities, after reaching a high of 278 points in June 2008, the FAO Cereal Price Index fell to 228 points in September, down 5 percent from the previous month but still up 10 percent from the corresponding period last year. The Oils/Fats Price Index is currently some 10 percent above the level recorded in September 2007. The Dairy Price Index fell almost 12 percent from August to September 2008 and has now fallen by about 28 percent from its peak in November 2007.

As further evidence of the recent trends in prices among the major commodities, Table 1 shows the trend from 2000-2008 in the overall FFPI as well as for individual commodities, with a monthly breakdown from September 2007 to September 2008 that confirms again the recent reversal in the previously consistent upward trend:

**Table 1: FAO Food Price Index, overall and for selected commodities 2000-2008**

FAO Food Price Index							
		Food Price Index <sup>1</sup>	Meat <sup>2</sup>	Dairy <sup>3</sup>	Cereals <sup>4</sup>	Oils and Fats <sup>5</sup>	Sugar <sup>6</sup>
2000		92	100	106	85	72	105
2001		94	100	117	87	72	111
2002		93	96	86	95	91	88
2003		102	105	105	98	105	91
2004		113	118	130	108	117	92
2005		116	121	145	104	109	127
2006		126	115	138	122	117	190
2007		156	121	247	168	174	129
2007	September	170	124	290	191	190	125
	October	174	122	297	197	202	128
	November	179	126	302	199	221	130
	December	186	123	295	219	226	137
2008	January	195	126	281	234	250	154
	February	215	128	278	277	273	173
	March	217	132	276	276	285	169
	April	214	132	266	278	276	161
	May	215	142	265	270	280	155
	June	219	144	263	273	292	156
	July	213	143	264	255	273	183
	August	201	146	247	240	230	188
	September	188	140	218	228	209	173

<sup>1</sup> **Food Price Index:** Consists of the average of six commodity group price indices mentioned above weighted with the average export shares of each of the groups for 1998-2000: in total 55 commodity quotations considered by FAO Commodity Specialists as representing the international prices of the food commodities noted are included in the overall index.

<sup>2</sup> **Meat Price Index:** Consists of three poultry meat product quotations (the average weighted by assumed fixed trade weights), four bovine meat product quotations (average weighted by assumed fixed trade weights), two pigmeat product quotations (average weighted by assumed fixed trade weights), one ovine meat product quotation (average weighted by assumed fixed trade weights): the four meat group average prices are weighted by world average export trade shares for 1998-2000.

<sup>3</sup> **Dairy Price Index:** Consists of butter, SMP, WMP, cheese, casein price quotations; the average is weighted by world average export trade shares for 1998-2000.

<sup>4</sup> **Cereals Price Index:** This index is compiled using the grains and rice price indices weighted by their average trade share for 1998-2000. The grains Price Index consists of International Grains Council (IGC) wheat price index, itself average of nine different wheat price quotations, and one maize export quotation; after expressing the maize price into its index form and converting the base of the IGC index to 1998-2000. The Rice Price Index consists of three components containing average prices of 16 rice quotations: the components are Indica, Japonica and Aromatic rice varieties and the weights for combining the three components are assumed (fixed) trade shares of the three varieties.

<sup>5</sup> **Oil and Fat Price Index:** Consists of an average of 11 different oils (including animal and fish oils) weighted with average export trade shares of each oil product for 1998-2000.

<sup>6</sup> **Sugar Price Index:** Index form of the International Sugar Agreement prices.

Such price volatility is not a rare occurrence in agricultural markets although frequently high prices tend to be short lived compared with low prices, which persist for longer periods<sup>2</sup>. This is illustrated clearly in data collated by IMF<sup>3</sup> that shows how prices of commodities tend to decline sharply following price spikes:

Comparing troughs					
In previous downturns, commodity prices declined sharply. Commodity price changes during global downturns <sup>1</sup> (peak to trough changes in percent, based on dollar price)					
Peak	December 1973	February 1980	August 1981	November 1990	September 2000
Trough	June 1975	September 1980	September 1982	June 1993	January 2002
Crude oil (IMF APSP) <sup>2</sup>	117.2	-10,5	-1,8	-47,9	-37,0
Metals	-5,4	-25,6	-14,9	-34,7	-15,4
Food	-13,0	11,0	-8,1	-7,7	-4,8
Beverages	-17,3	-20,5	-3,2	-24,8	-8,3
Agricultural Materials	-19,2	-12,9	-2,1	14,0	-13,5

Source: IMF:

1 Downturns identified on the basis of global industrial production using business cycle dating methods.

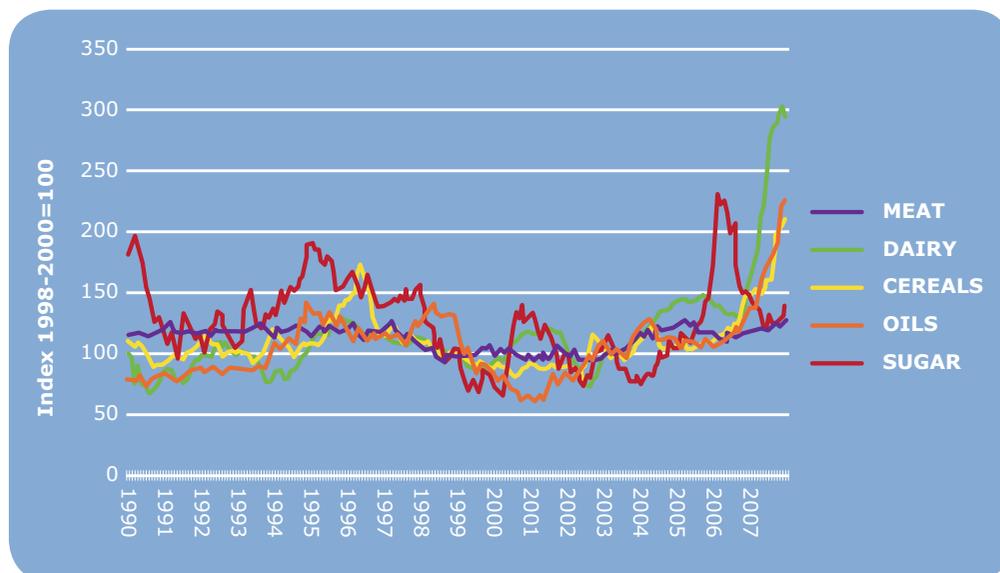
2 APSP = average petroleum spot price.

What makes the current state of agricultural markets so particularly worthy of review and possible radical policy development is more the concurrence of the spike in world prices of, not just a selected few, but, as described above, of nearly all, major food and feed commodities (Figure 2) and the possibility that the prices of food products may continue to remain high after the effects of short term shocks dissipate. The price boom has also been accompanied by much higher price volatility than in the past, especially in the cereals and oilseeds sectors, highlighting the prevalence of greater uncertainty in the market. Even more, the current situation differs from the past in that the price volatility has lasted longer, a feature that is a result of a combination of supply tightness and ever strengthening relationships between agricultural commodity and other markets, particularly oil and other fuels.

2 The last significant price boom for agricultural commodities began in early 1995 (affecting mainly cereals), peaked in 1996 and dissipated quickly afterwards, bottoming out at the beginning of 2000.

3 Thomas Helbling and Valerie Mercer Blackman, IMF Research Department, March 2008.

Figure 2: Monthly FAO Price Indices for basic food commodity groups (1998-2000=100)



**Table 2: World Production Trends for Selected Food Commodities 2007-2009**

Cereals (m tonnes)	Production		Imports		Exports		Total Utilization		Stocks at end	
	2007	2008	2007/08	2008/09	2007/08	2008/09	2007/08	2008/09	2008	2009
	estim.	f'cast	estim.	f'cast	estim.	f'cast	estim.	F'cast	estim.	f'cast
<b>ASIA</b>	<b>951.3</b>	<b>947.2</b>	<b>121.7</b>	<b>131.5</b>	<b>46.5</b>	<b>40.0</b>	<b>1 008.8</b>	<b>1 021.6</b>	<b>273.6</b>	<b>290.8</b>
<b>EUROPE</b>	<b>387.5</b>	<b>480.5</b>	<b>35.7</b>	<b>17.1</b>	<b>35.0</b>	<b>55.2</b>	<b>394.3</b>	<b>419.9</b>	<b>48.9</b>	<b>70.4</b>
<b>WORLD</b>	<b>2 128.2</b>	<b>2 241.5</b>	<b>274.4</b>	<b>264.0</b>	<b>272.0</b>	<b>264.0</b>	<b>2 126.0</b>	<b>2 197.0</b>	<b>433.2</b>	<b>474.0</b>

Oil Crops (m tonnes)	Production			Imports			Exports		
	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
		estim.	f'cast		estim.	f'cast		estim.	f'cast
<b>ASIA</b>	<b>124.0</b>	<b>121.7</b>	<b>130.4</b>	<b>51.6</b>	<b>58.2</b>	<b>57.8</b>	<b>2.9</b>	<b>2.6</b>	<b>2.6</b>
<b>EUROPE</b>	<b>41.1</b>	<b>39.7</b>	<b>45.8</b>	<b>19.3</b>	<b>19.6</b>	<b>19.8</b>	<b>3.0</b>	<b>2.6</b>	<b>4.4</b>
<b>WORLD</b>	<b>417.7</b>	<b>403.8</b>	<b>430.5</b>	<b>85.3</b>	<b>93.5</b>	<b>92.9</b>	<b>85.3</b>	<b>93.5</b>	<b>92.7</b>

All Meats ( <sup>000 t, carcass weight equiv.</sup> )	Production		Imports		Exports		Utilization	
	2008	2009	2008	2009	2008	2009	2008	2009
	estim.	f'cast	estim.	f'cast	estim.	f'cast	estim.	f'cast
<b>ASIA</b>	<b>113370</b>	<b>115472</b>	<b>10771</b>	<b>11160</b>	<b>2695</b>	<b>2824</b>	<b>121446</b>	<b>123808</b>
<b>EUROPE</b>	<b>54871</b>	<b>55093</b>	<b>5765</b>	<b>5798</b>	<b>2569</b>	<b>2572</b>	<b>58066</b>	<b>58319</b>
<b>WORLD</b>	<b>277843</b>	<b>280689</b>	<b>23766</b>	<b>24530</b>	<b>23860</b>	<b>24468</b>	<b>277750</b>	<b>280751</b>

Milk and Milk Prod's (m tonnes, milk equivalent)	Production			Imports			Exports		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
		estim.	f'cast		estim.	f'cast		estim.	f'cast
<b>ASIA</b>	<b>238.5</b>	<b>246.8</b>	<b>255.9</b>	<b>18.6</b>	<b>19.0</b>	<b>19.0</b>	<b>5.0</b>	<b>4.8</b>	<b>4.9</b>
<b>EUROPE</b>	<b>214.5</b>	<b>216.6</b>	<b>218.7</b>	<b>5.5</b>	<b>5.8</b>	<b>6.1</b>	<b>12.7</b>	<b>12.8</b>	<b>12.4</b>
<b>WORLD</b>	<b>677.7</b>	<b>692.7</b>	<b>709.7</b>	<b>38.9</b>	<b>40.2</b>	<b>40.8</b>	<b>39.3</b>	<b>40.4</b>	<b>41.0</b>

Table 2 above<sup>4</sup> illustrates recent production trends in both Europe and Asia for major food commodities. It confirms that, even though production levels have increased in 2008 and are forecast to increase also in 2009, levels of stocks remain low. This is a consequence of long term diminutions in stock levels that cannot be reversed in a short period of time. This supports the argument, developed above, that price levels of food products may well remain high, even if annual production of commodities is starting again to increase. Further evidence is provided in Figures 3 and 4, below, where it can be seen that although production levels for both cereals and rice have increased both in Europe and Asia, and overall at the world level, stock levels have increased only marginally. More detailed data is provided in Appendix 2 for a greater range of food commodities.

4 Source: FAO Food Outlook Statistical Appendix, Nov-2008; more information is presented in Appendix 2.

Figure 3: World Production of Cereals 2007-2009

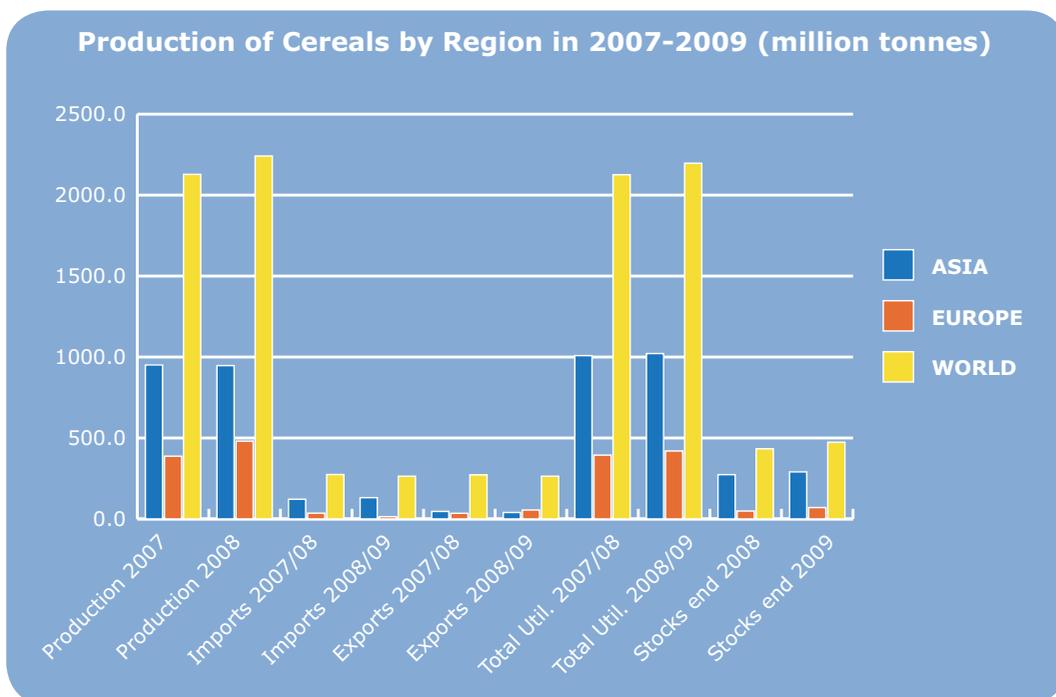
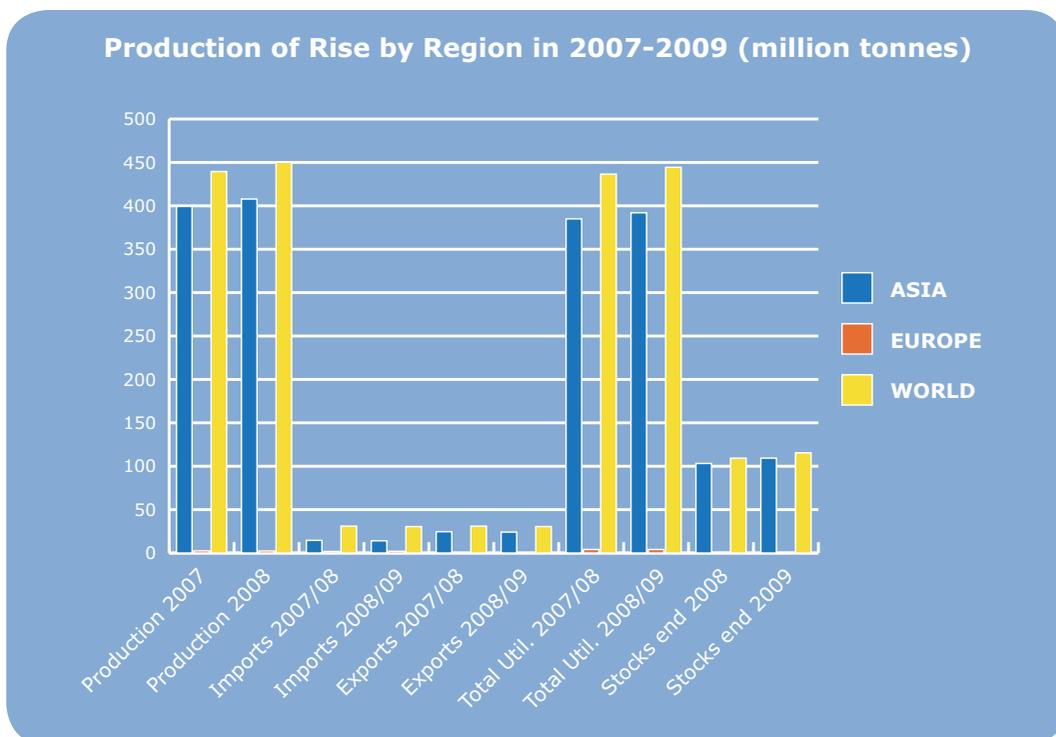


Figure 4: World Production of Rice 2007-2009



## 1.2 Impact on Producers and Consumers

The impact of substantial increases in fuel and food prices will vary significantly with respect to foreign exchange earnings, incomes, and welfare between countries depending upon the nature and extent of resources they are endowed with and the constraints that their economies face. However, it is clear that net importers of both fuel and food will be particularly affected, if the constraints are severe.

FAO statistics, summarised in Table 3 below, show that already substantial increases in the global cost of imported foodstuffs have occurred, estimated at US\$745 billion in 2007 which is some 21 percent more than the previous year and the highest level on record. Distinguishing economic regions, developing countries as a whole could face over the year an increase of 25 percent in aggregate food import bills. Among them, the most economically vulnerable countries are set to bear the highest burden in the cost of importing food, with total expenditures by Least Developed Countries (LDC's) and Low-Income Food Deficit Countries<sup>5</sup> (LIFDC's) anticipated to climb, respectively, by 20 and 24 percent, from last year's level, after each rising in the order of 10 percent from the year before that. The sustained rise in imported food expenditures for both vulnerable country groups is highly significant. In 2008, their annual food import basket could cost over twice what it did in 2000.

Rising import bills do not necessarily imply more imported foodstuffs. This is especially true for grains, both wheat and maize, where high and volatile international prices could curtail procurement in many countries, a response not always consistent with improved domestic supply prospects. This could potentially lead to reduction in imports and consumption in many LIFDCs, especially in those countries where food inventories are already very low.

**Table 3: Forecast import bills of total food and major food commodities (US\$ million)**

	World		Developing		LDC <sup>1</sup>		LIFDC <sup>2</sup>	
	2006	2007	2006	2007	2006	2007	2006	2007
<b>Total Food</b>	614 887	744 777	185 529	232 814	13 362	15 937	86 473	107 236
<b>Cereals</b>	174 399	240 784	69 410	93 603	5 683	7 185	29 450	38 258
<b>Vegetable Oils</b>	70 956	96 100	35 050	47 236	1 945	2 659	22 884	32 107
<b>Dairy</b>	43 666	71 916	12 930	21 278	801	1 302	4 924	8 115
<b>Meat</b>	77 865	82 447	16 806	19 034	810	915	6 013	7 317
<b>Sugar</b>	32 975	21 755	13 871	11 263	1 753	1 249	7 587	4 525

<sup>1</sup> Least developed countries

<sup>2</sup> Low-income food deficit countries

5 The list of LIFDCs are maintained and updated by FAO and are determined by three criteria:

- Income level of a country where the per capita income is below the "historical" ceiling used by the World Bank to determine eligibility for IDA assistance and for 20-year IBRD terms, applied to countries included in World Bank's categories I and II.
- Net trade situation of a country where trade volumes for a broad basket of basic foodstuffs (cereals, roots and tubers, pulses, oilseeds and oils other than tree crop oils, meat and dairy products) are converted and aggregated by the calorie content of individual commodities.
- A self-exclusion criterion when countries that meet the above two criteria specifically request to be excluded from the LIFDC category.

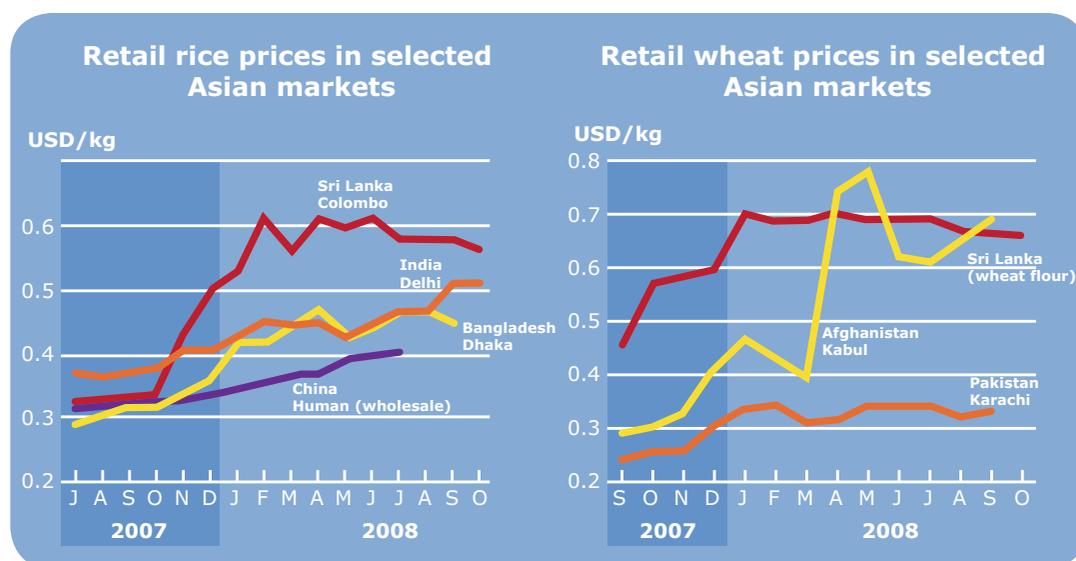
Since international food price increases were partly caused by and partly coincidental with increases in crude oil prices, it is important to note that for countries that are not only net food importers but also net fuel importers, the dual pressure of increased prices can put severe constraints on their ability to import not only those products essential for the welfare of their populations but also other goods and services required for future economic development.

The situation with respect to producers is rather different with respect to the impact of price volatility. At the very least, the last three years has proved the validity of theories of elasticity of supply and demand for food products. Producers with the economic means to do so have responded in the classical style to rising prices for food commodities, increasing both the areas planted and the levels of inputs applied to growing crops; in many LDC's this was achieved with the active support and encouragement of donors via input supply programmes. These factors have contributed in part to the supply response shown in the improved harvests, particularly in 2008. However, it must be borne in mind that even though there have been opportunities for windfall profits for producers in 2006 and 2007, these are short term gains that should not form the basis for long term decision making.

In developing countries, farmers who are net food producers will benefit from higher prices, assuming that food price increases are reflected at the farm level for purchases of outputs. Since farming is the major source of income for a large part of the rural population in most developing countries, higher prices could help to alleviate rural poverty, provided that producers are integrated into the market, with the benefits being directly related to the size of farms and the access to other agricultural resources (seeds, fertilizer, machinery, etc.) which will allow farmers to respond to higher prices. However, not all rural dwellers are net food producers. In fact, very small farmers and agricultural workers are often net consumers of food, as they do not own enough land to produce sufficient food for their family.

Another factor that is highly relevant in this respect is that whereas food commodity prices tend to react immediately and sometimes spectacularly to imbalances in supply and demand, there is a tendency for this not to be reflected either so quickly or to the same extent in the prices of food products. This is shown clearly in Table 4 below where retail prices of wheat and rice in selected Asian markets (all low income food deficit countries) can be seen to have, to date, at best stabilized, even though the price of both commodities has declined significantly in recent months on world markets.

**Table 4: Retail prices of rice and wheat in selected Asian markets**



It must also be taken into account that even if food prices at the retail level do follow the trend of commodity markets and fall, it does not necessarily follow that the severity of rural poverty in the most disadvantaged countries will decline. This is because there is a further and highly relevant factor that must now be taken into account—the global financial crisis. In the most disadvantaged countries in Europe and Central Asia, expatriate workers contribute significantly to the overall economy through remittance payments sent back to their families. Given that already significant numbers of these workers are facing the threat or reality of unemployment, it must be expected that the extent of this external stimulus to the economy will diminish at least in the short to medium term future. In this situation, the problems associated with rural poverty will remain at least at their current levels.

## 2. Major Factors Contributing to the 2006-2008 Global Food Price Volatility

Many different factors have combined to contribute to the volatility of food price levels throughout the world since 2006. In no particular order of importance, price rises can be attributed to one or other of the following factors; a succession of poor harvests in various parts of the world, increasing usage of, and allocations of land for production of, bio fuels, lower food reserves, growing consumer demand in Asia, oil price rises, and changes to the structure of the world economy. Agricultural subsidies in developed nations are another long-term factor often attributed to high global food prices. In this section a brief review is made of the principle long term and short term supply and demand factors have together contributed, either directly or indirectly, to the recent price volatility.

It is widely accepted that economic development and income growth in developing and emerging countries, as well as population growth and urbanization, have been gradually changing the structure of demand for food commodities. Diversifying diet patterns are moving away from starchy foods towards more meat and dairy products, which is intensifying demand for feed grains and strengthening the linkages among different food commodities.

For a number of years the impact of this trend was masked by continuing increases in food production that have been greater than population growth. Food availability per person increased during the 1961-2005 period. Some commentators have argued that this most recent food crisis stems from unprecedented global population growth. However, in reality world population growth rates have dropped dramatically since the 1980s, and grain availability has continued to outpace population growth. Aggregate food production per capita rose from the 1960s to the 1980s but has slightly declined since, at least for cereals. World population has grown from 1.6 billion in 1900 to an estimated 6.6 billion today.

Although these changes were not really the main cause of the sudden spike that began in 2006, they have combined to affect the overall supply demand balance; principally through a combination of changing consumption patterns that have led to reduced stock levels in cereal and oilseed markets over the past decade. Equally, in the future, continuing increases in both population and economic purchasing power will continue to have significant impact. This is discussed further below.

Although there is a relatively broad consensus on the factors that have contributed to the current situation, the relative importance of each factor varies by crop and, to some extent, by country characteristics, and is also difficult to estimate reliably. Among the global factors that are expected to continue to persist are an increasing demand for food driven by population growth across the world, rising incomes, particularly in India and China<sup>6</sup>, and the use of some cereals as feed-stock for bio fuel. On the supply side, the sustained decrease in the stock levels of cereals since the mid-1990s (estimated

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6 An example of the magnitude of the combined effect of population growth and poverty reduction comes from China, where the population grew from 0.999 billion in 1980 to 1.274 billion in 2000 ("China Country Profile", UN-DESA, [www.un.org/esa/population/publications/countryprofile/china.pdf](http://www.un.org/esa/population/publications/countryprofile/china.pdf), accessed 28th August 2008) and the poverty rate is estimated to have fallen from around 53 percent in 1981 to just 8 percent in 2001 ("China's (Uneven) Progress Against Poverty", Martin Ravallion and Shaohua Chen, *Journal of Development Economics* 82 (2006): 1-42). Its rice consumption rose from about 50 million metric tons per year in the 1960s to about 127 million metric tons in 2007 (based on the USDA Production, Supply and Distribution Database, <http://www.fas.usda.gov/psdonline/psdQuery.aspx>). Large increases were also recorded in its beef, pork and poultry consumption.

to be, on average, at the rate of 3.4 percent annually since 1955<sup>7</sup>) coupled with sharp decreases in total production in 2005 and 2006 in the major exporting countries<sup>8</sup> helped trigger the price increases. For both consumers and producers, matters have been exacerbated by the concurrent surge in oil prices.

Inevitably, a poor household spends a greater proportion of its income on food than a rich one, and this ratio tapers off rather gradually as families become better-off. The composition of the food basket also changes with income, with the poorest typically consuming mostly cereals, but then diversifying towards foods such as meat, lentils and vegetables, important sources of proteins and other nutrients, as incomes rise. Unless supply increases take place, these effects exert upward pressures on grain prices in at least three ways: first, through an increased demand for grains consumed directly as cereals; second through an increased demand for grains that go into animal feed; and third through the potential diversion of cropland from production of cereals for human consumption towards animal feed stock, lentils and vegetables. Therefore, other things remaining unchanged, the effect of a given increase in income for a sufficiently large number of poor households is more likely to result in a rise in cereal prices than a similar increase for rich households. Consequently, with an estimated 278 million people in developing countries alone moving out of extreme poverty between 1990 and 2004<sup>9</sup>, the attendant price rise in cereals (and, more generally, other food items) disproportionately erodes the purchasing power of those at lower levels of the income distribution, and threatens to undo some of the recent gains in poverty reduction and improved nutrition.

This is a long term factor of significant importance; the inter-agency International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), predicts that global cereal demand will increase by 75 percent between 2000 and 2050, while global demand for meat will double during the same period, with the latter implying a concurrent additional increase in feedstock demand<sup>10</sup>. Even more significant, in excess of three quarters of this growth in demand for both cereals and meat will be accounted for by developing countries. Rising incomes and economic development have also led to a surge in demand for many primary commodities, especially oil and natural gas. This affects the price of food in two important ways: increased transportation costs raise production and distribution costs all along the supply chain; and at the same time the cost of fertilizers such as urea, whose manufacture is energy intensive, also rises. On average, the pass through of oil prices to food prices has been estimated at 0.18<sup>11</sup>.

Many of society's efforts to address climate change by reducing greenhouse gas emissions as well as the desire for energy security have prompted growing interest and policy emphasis on alternative fuel sources. The increasing production of bio fuels such as ethanol (derived from starchy crops – including cereals - and sugar crops) and bio diesel (derived from oilseeds) contributes directly to the rise in the prices of the source crops. Global production of bio fuels in 2007 was 62 billion litres, accounting

7 "Soaring Food Prices: Facts, Perspectives, Impacts and Actions Required", FAO, June 2008.

8 The annual decrease in cereal production in the major exporters in 2005 and 2006 was 4 percent and 7 percent respectively (ibid). Total world output increased by around 5 percent in 2007 ("Crop Prospects and Food Situation," FAO, July 2008), but this was almost entirely driven by maize in the US, with much of the increase going towards biofuel production.

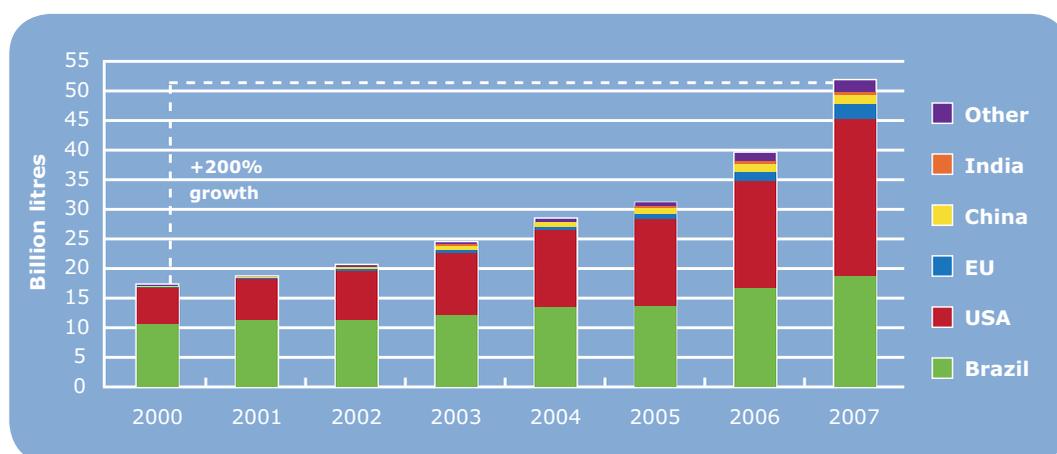
9 "Global Monitoring Report, 2008: MDGs and the Environment", The World Bank, Washington DC.

10 The Worldwatch Institute (<http://www.worldwatch.org/node/1626>), estimates that in feedlots, about 7 kilograms of grain is required to produce one kilogram of beef, with the corresponding figures for pork and chicken being about 4 kilograms and 2 kilograms respectively.

11 Baffes, John. 2007. "Oil Spills on Other Commodities," WPS 4333, The World Bank, Washington DC.

for about 1.8 percent of global transport fuel consumption in energy terms. Brazil and the United States together account for about 75 percent of the global supply, with ethanol being the main product; produced in the US from maize and in Brazil from sugarcane. The EU leads in the production of bio diesel. As can be seen from Figures 5 and 6 below, production of these bio fuels has grown sharply over time. Although bio fuel production costs have fallen with improvements in technology, and learning from experience, they still cannot compete effectively with gasoline and diesel. Public policy measures support the further development of bio fuels; OECD estimates that in 2006, support to production and use in the US, the EU, and Canada amounted to about USD 11 billion per year<sup>12</sup>. About 8 percent of global coarse grain production and 9 percent of global vegetable oil production went towards bio fuels in 2007, and this is estimated to grow to 12 percent and 14 percent respectively in the time frame 2013 - 2017. Under the current set of public policies, it is estimated that bio fuel production will drive up average wheat, maize, and vegetable oil prices by 5 percent, 7 percent and 19 percent respectively in the time period 2013-2017<sup>13</sup>.

Figure 5: World Fuel Ethanol Production, 2000-2007<sup>14</sup>

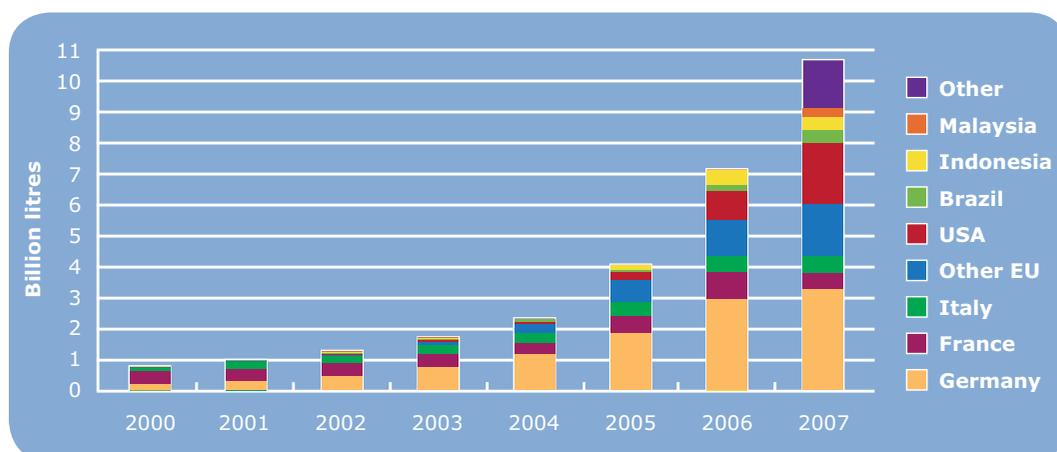


12 Additional supports may come into effect as a result of the implementation of the recently enacted Energy Independence and Security Act by the US, and the proposed new EU Directive for Renewable Energy. The OECD (2008) estimates that in that case, about 13 percent of the global coarse grain output and 20 percent of the global vegetable oil production could move to bio fuel production.

13 OECD estimates. IFPRI estimates, based on implementation of existing bio fuel investment and production plans by the major producers suggest that by 2020, world prices for feedstock crops would have increased by 8 percent for wheat, 26 percent for maize and 18 percent for oilseeds.

14 Figures 5 and 6 are adapted from "Economic Assessment of Bio fuel Support Policies", OECD, 2008.

Figure 6: World Biodiesel Production, 2000-2007



It is important to note that although increased oil prices may be expected to improve the profitability of bio fuels, the concurrent increase in feedstock prices has had a countervailing effect. As a result, unless there are significant policy changes, bio fuel supports are likely to stay in one form or the other, and there will continue to be a need for moderating their influence on food prices. At the same time, given their purported effects in mitigating climate change and their contribution to energy security, such responses will need to be developed and articulated carefully. The recent reduction in prices of oil and oil products adds another dimension to the policy debate surrounding the promotion of bio fuels as alternative energy sources.

In addition to these demand factors, which may be expected to continue for some time, several other factors have also contributed to the price increases. It has been argued that financial speculation in securities and derivatives linked to commodities (including agricultural commodities) markets has helped push prices higher, for example. However, speculation on future prices, unless accompanied by hoarding, may have only a limited influence on increases in the spot price, and the importance of this effect remains unclear.

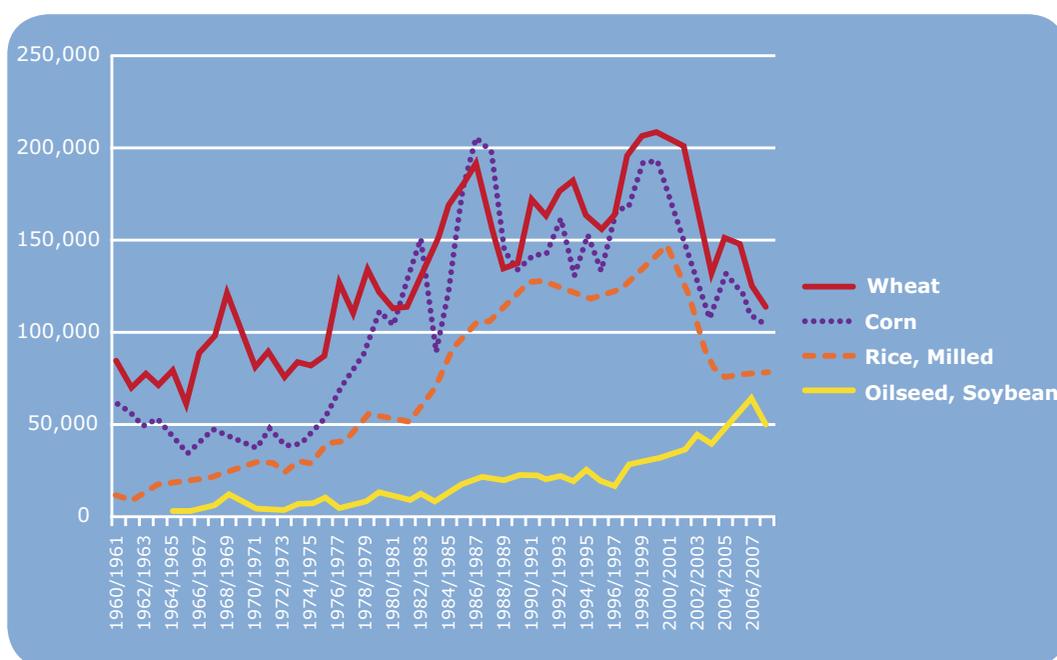
Other, arguably transitory factors are supply shocks, due to both the weather and to changes in policies of the exporting countries. Given the relatively small number of primary grain exporting countries, the effects of adverse weather conditions in a relatively small number of countries can have a quite dramatic effect on the trade balance for a range of commodities. Based on USDA data it is estimated that three countries, for example, account for 90 percent of maize exports, five countries for 80 percent of rice exports and seven countries 90 percent of wheat exports. Even more pertinent, the volumes traded are also only a small fraction of the total production<sup>15</sup>. As examples of policy changes having impact on trade balances and hence influencing recent price volatility, India and Vietnam, respectively accounting for 14 percent and 15 percent of global rice supply, both imposed restrictions on their exports in recent months, thus contributing to increased prices in the global market. A similar situation occurred among major importers<sup>16</sup>.

<sup>15</sup> Exports as a proportion of total production are about 6 percent for rice, 9 percent for maize and 12 percent for wheat.

<sup>16</sup> The Philippines, a major rice importer (accounting for about 6 percent of total global imports of rice), recently pursued an aggressive strategy to increase its stockpiles by tapping the global market, with consequent increases in world price levels.

The collective effect of all of the factors described above has contributed to demands outpacing production in recent years, up to and including 2007. Figure 7 below shows the gradual decline in global closing stocks since the early 2000s, and documents the cumulative effect of increases in demand, unmatched by corresponding increases in production, drawing down stocks, and leading to price rises.

**Figure 7: Global End Stocks for Wheat, Corn, Rice and Soybean, 1960-2007 ( ` 000 MT)<sup>17</sup>**



Although the spectacular supply response of primary producers around the world in 2008 has combined to reverse, at least in the short term, the impact of this cumulative effect described above, it cannot be presumed that this situation will prevail in the long term. Growing conditions were favourable in most of the major producing countries in 2008, and inputs widely available, in many cases provided free or at subsidised prices as a result of short term policy responses to the then exceptionally high prices of primary food commodities. It must also be borne in mind that the quick supply response for cereals in 2007 came at the expense of reducing productive resources to, and hence output of, oilseeds, specifically of soya beans. Hence the importance of considering longer term policy responses that draw lessons from the experiences of recent years.

The market developments observed in recent years, and described above, thus, seem to have been the result of a combination of various short term and long term imbalances. The fact that the markets can adjust rather rapidly has already been demonstrated by the supply response observed in both 2007 and 2008. However, with many agricultural commodity markets continuing to be tight, and with stock levels low, the possibility of further sharp price hikes and continued volatility as a result of unforeseen events is likely to persist in the short and medium term future. Of significance in this respect is the possibility of the persistence of demand for bio

17 Source: USDA Production, Supply and Distribution Database.

fuels. This depends on a number of factors, the future development of which cannot be assessed with any certainty:

- Since the initial increase in this source of demand has been triggered by continuing increases in crude oil prices, sustaining demand from this source will depend on future developments in energy markets.
- It will also depend on the rate of increase of both crude oil and feedstock prices. Since 70-80 percent of the cost of bio fuels is constituted by the cost of the feedstock itself, if feedstock prices increase faster than the price of crude oil, bio fuels may cease to be competitive with fossil fuels. Thus, there would effectively be a ceiling above which agricultural feedstock prices cannot rise. But, as long as fuel prices increase at a rate above those of agricultural feed stocks, bio fuel use will compete with food and other uses of these feed stocks and maintain the upward pressure on their prices<sup>18</sup>.
- A great deal of effort is being expended to develop and commercialise the use of second generation (lignocellulosic) feed stocks that do not compete with agricultural products for land resources because they can be grown on marginal land (e.g. switch grass in the USA, sweet sorghum in many developing countries such as India and China). However, many of the technological developments underway have a long way to go before they can be commercialised and used widely to relieve the pressure on demand for agricultural feed stocks<sup>19</sup>.

Other important factors that can be influential over the longer term are land and water resource constraints, availability of technological developments to increase agricultural yields, the impact of climate change on agricultural yields in different parts of the globe<sup>20</sup>, as well as population increase and urbanisation. The historical long term decline in real prices has continued so far because the technological changes in agriculture have always kept up with increases in demand for agricultural products, more than that has occurred in some other sectors of the economy.

### 3. Policy Responses Appropriate to Global Food Price Volatility

On the basis of the last three years of price volatility, it is possible to make an analysis of the immediate national policy responses to soaring food prices. In brief summary, they have varied both in nature and effectiveness. In general, the focus has been on guaranteeing an adequate and affordable food supply for the majority of consumers, providing safety nets for the most food insecure and vulnerable and, to a certain degree and usually with international donor support, fostering an agricultural supply response.

Policy responses have ranged from those with an immediate focus, such as increasing food aid, to those with longer term objectives, such as improving agricultural yields. Some responses, such as the development of regional grain pools, or research into improved crop varieties, offer far greater potential for collaboration across countries than others.

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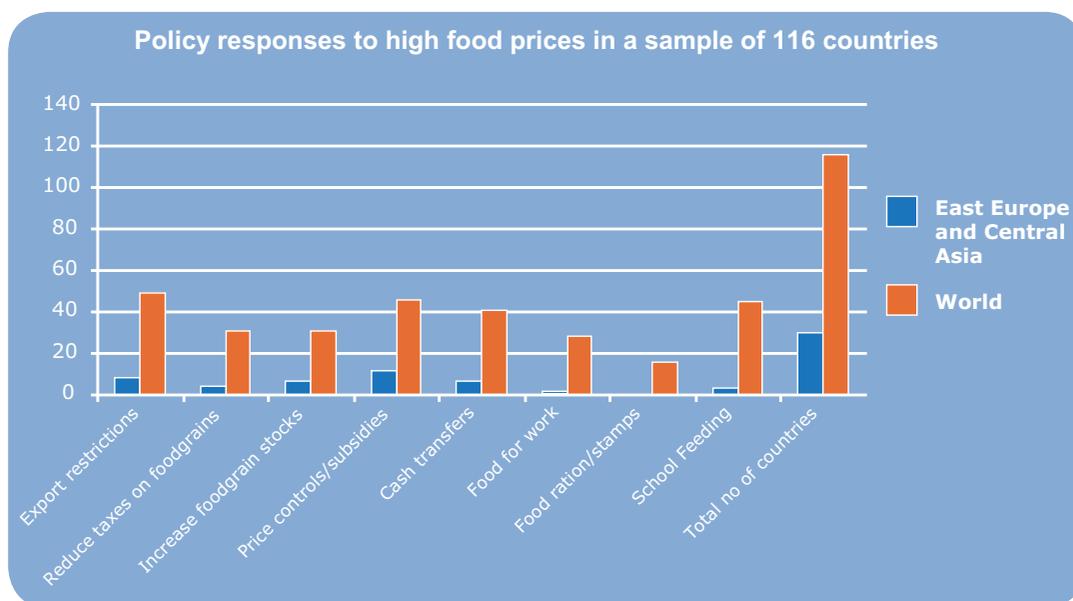
18 Schimdhuber (2006).

19 Flavell (2007).

20 There are already some estimates available for the impact suggesting that developing countries in general will see their cereal production decline by 3.3 to 7.2 percent between 1990 and 2080. The impact, however, is not expected to be uniform across different developing regions: with south Asia being the biggest loser losing 18.2 to 22.1 percent of its cereal output and south east Asia and sub-Saharan Africa losing roughly 3 to 7.5 percent. The exception is Latin America, with foreseen increase of 5.2 to 12.5 percent (von Braun (2007)).

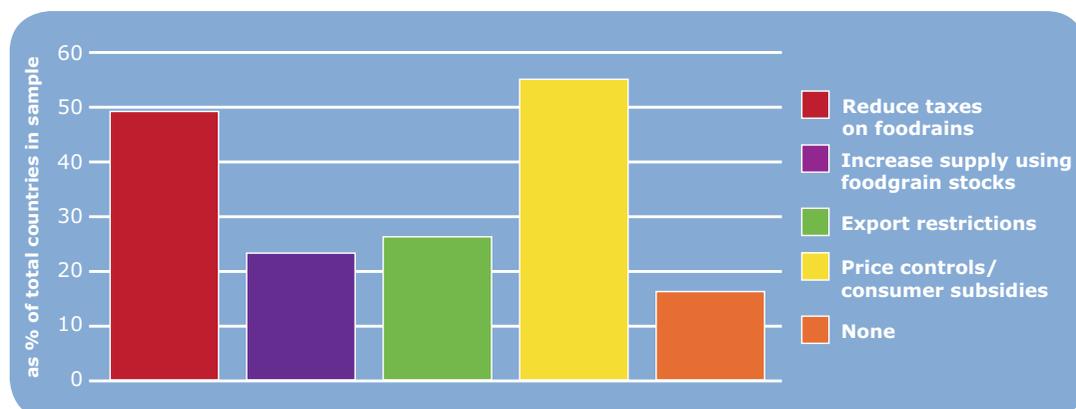
At the same time, policies such as export restrictions, meant to safeguard consumers in one country, could end up harming those in another. World Bank data presented in Figure 8 below indicates of some of the responses introduced. It is pertinent to note that market distorting policies, such as export and price controls, were among the most widespread measures introduced.

**Figure 8: Policy responses to high food prices in a sample of 116 countries**



Further information is provided through an FAO survey of 77 countries, from which it can be observed that approximately half of the governments in the countries surveyed reduced grain import taxes, reflecting both the ease of use and political expediency of this measure. Approximately 55 percent of the countries used price controls or consumer subsidies in an attempt to reduce the transmission of price increases to the consumer. One-quarter of the governments imposed some type of export restriction, and roughly the same proportion took action to increase supply, drawing on feedgrain stocks. Only 16 percent of countries surveyed introduced no policy responses. Figure 9 below summarises the principal policy measures introduced in the countries surveyed.

**Figure 9: Policy measures introduced to address high food prices in 77 countries**



There follows a review of the principal policy options that have been, and can be, introduced by countries as a response to the experience gained from the recent price volatility. Their relevance varies depending on the status of the country in question as being either a net food importer or exporter, and they are presented in no particular order of importance.

### 3.1 Export Restrictions

Several food exporting countries have restricted their exports of staple cereals. For example, within the time period under review<sup>21</sup>, Cambodia, China, India and Vietnam have all introduced export restrictions on rice, and Ukraine has done the same for wheat. These restrictions are intended to lower prices in the domestic market and to therefore benefit domestic consumers, irrespective of their need. However, as farmers are unable to sell at the more profitable world price, the incentive to produce more is reduced. This becomes even more significant in the current context when the prices of fertilizers, seeds and other inputs have risen. The reduction in grain availability on the world market increases the world price, thus imposing a negative externality on other countries. If the world market for food is thin, such restrictions can also further increase price volatility.

The timing, predictability and the ability of the government to commit to such restrictions as well as its ability to reduce hoarding by traders and middlemen can be critical to their impact. For example, the farmer's decision to plant crops depends on his expectation of what the government policy will be at the time of the harvest; if it can be anticipated that export restrictions announced earlier will not be in place at harvest time, the negative effect on his incentive will be reduced. Even if restrictions are announced post-harvest, when the immediate benefit to the consumer will be the highest, hoarding by grain speculators may lead to much of the surplus being purchased and stored by them rather than by the consumer. Such a situation is especially likely if there is an expectation that the export restrictions will be eased in the future.

<sup>21</sup> All of the policy options discussed in this section are based on the experience gained from food price volatility in the period 2006-2008.

In Ukraine, the high wheat prices up to harvest 2008 presented a clear opportunity to increase production, export, and revenues. Such increases also served to relax the then present pressures on the international grain markets. Up until recently, Ukraine's response to the rising grain prices was to introduce export quotas, thereby delivering a net benefit to consumers estimated to be US\$52.30 per year per person. On the other hand, these policies are estimated to have cost producers more than US\$2 billion in 2007-2008, and could have negative incentives for their investment decisions.

### **3.2 Policy Options Available to Food Importing Countries**

For countries that are net food importers, the short term impact of price rises is often manifested in less favourable terms of trade. An immediate concern for such countries is meeting higher import bills. FAO estimates suggest that the cereal import bill of the world's poorest countries increased by around 56 percent in 2007, even higher than its 36 percent increase in the previous year. For Haiti for example, FAO estimates there will be an increase of over 80 percent in its food import bill of 2008 and for other countries, such as Sri Lanka and Liberia, the increase is expected to be between 40 percent and 60 percent in 2008 compared to 2007. For countries whose export earnings have also risen as a result of having other food commodities in surplus, perhaps through commodity revenue, this may be less of a concern.

Several countries that import food have responded to the crisis by lowering or eliminating tariffs on such imports. These measures can reduce to a certain extent the rise in prices faced by the consumer, but they also result in a loss in revenue for the government. For example, Brazil removed the 10 percent tariff on Mercosur wheat, and a number of Latin American countries (El Salvador, Nicaragua, Guatemala and Honduras) jointly removed the tariff on wheat flour. Liberia suspended the US\$2.00 tax levied on a standard bag of rice, and Côte d'Ivoire temporarily suspended import duties on essential foodstuffs.

For the countries that are worst affected by soaring world food prices, the immediate emergency response may be food aid. The World Food Programme (WFP) currently aids 78 countries, and has also launched a special appeal for US\$755 million in additional funding to cover the high costs of assistance this year. Such aid ameliorates the current crisis but, by lowering domestic prices, also reduces the incentives of local producers to grow for the next season. For this reason, food aid in any given season should ideally be coupled with a guaranteed procurement price for the next season. Wherever possible, WFP and other such aid programmes should purchase food locally.

### **3.3 Safety Nets, Transfers and Price Controls**

A sharp increase in the price of food affects the poor to a much greater extent than a similar increase in the price of other goods because food forms a much larger share of their total purchases. Faced with an increase in the price of staples, poor households will respond by substituting away from other items in their consumption basket. In some cases, this may be accomplished through a shift to cheaper, locally produced food grains, with a different nutrient profile. In other cases, it may simply result in a reduction in the diversity of the diet, with proteins being consumed less frequently. In such a case, the nutrition level of the household falls, and may do so disproportionately for women, children and the less empowered.

A common policy response to this situation is to subsidize the price paid by consumers, either through a general subsidy or a more narrowly targeted programme. General subsidies are less efficient than targeted ones, and can also reduce producer incentives by lowering prices. They may also be accompanied by a greater fiscal strain than a targeted programme. However, targeted subsidy programmes require time and money to set up and administer, and a blanket subsidy may be an appropriate short term response with a limited time mandate.

School feeding programmes, nutritional support for pregnant and lactating women, public distribution systems aimed at the poor, subsidies on types of grains/bread consumed by the poor rather than the more wealthy, and 'food-for-work' programmes are all important examples of targeted in kind transfers. Targeted cash transfers (including Conditional Cash Transfer programmes) such as old-age pensions are also important. Conditional Cash Transfer (CCT) programmes are often well targeted and, therefore, able to efficiently reach many vulnerable households, without undermining producer incentives. However, most, if not all, were not designed to serve as emergency response mechanisms per se. They are more appropriate as longer duration interventions aimed at smoothing consumption for poor households in the short term and promoting investment in human capital in the long term. However, given the fact that they have already identified poor households and have cash distribution mechanisms in place, they present a ready-made system for delivering benefits (cash or nutritional supplements) to vulnerable households.

In considering the use of CCT programmes as a policy option in response to soaring food prices, it is essential to be aware that most CCT programmes do not cover the poorest of the poor, as they normally live in communities that are too marginalized to allow households to fulfil the conditionalities of the programme, such as regular attendance to school or health clinic for example. CCT programmes also do not cover households that, under normal circumstances, are just above the cut off line of programme eligibility (i.e. not poor enough), although they may well be vulnerable in the case of rapidly increasing food prices. As an example of this type of policy response, Mexico has taken advantage of the Oportunidades<sup>22</sup> infrastructure to increase cash allowances and has also added on other components to expand support to households not already covered by the programme as part of the wider Vivir Mejor (Live Better) strategy.

If not already in place, it is difficult to quickly establish a CCT to respond to soaring prices. The initial targeting effort can be long, data intensive, and expensive and may well be beyond the financial resources of the country<sup>23</sup>. It is also important that there are sound governance capacities and that opportunities for corruption are limited. If CCT's are used in such a situation, it is crucial to preserve, as much as possible, the integrity of the operational guidelines and structure of the conditionalities in order to ensure their long term sustainability.

Price ceilings have also been used in some countries (e.g. Mexico's cap on tortilla prices). However, as such measures are generally untargeted (unless the ceiling is imposed on a cereal that is primarily consumed by the poor), they can be relatively inefficient policy tools. Also, they significantly depress producer incentives, unless the government sets a guaranteed procurement price floor. This, in turn, can lead to

22 The Oportunidades programme in Mexico, has included a nutritional supplement for children and pregnant and lactating women since its inception in 1997.

23 Once in place, CCTs can be quite cost-efficient, but to establish a well designed, ideally sustainable, programme takes careful planning. In 2007, the Mexican government allocated just over US\$3.5 billion to cover 5 million poor households; operational expenses translated into less than 6 cents of every peso spent.

added strains in the budget. Further, once instituted, these types of programmes prove, politically, to be very difficult to remove. Therefore it is critical to assess their fiscal sustainability as part of the decision process regarding their nature and scope, and also to pre-announce a trigger<sup>24</sup> if not a date by which they should be phased out.

### **3.4 Buffer Stocks and Grain Pooling**

Buffer stocks, if used strategically, can lower prices and volatility. However, they require infrastructure and skills to procure, hold, and manage the stocks. In considering buffer stocks as a policy option, it is essential to weigh their associated costs against the potential of the market to provide a timely response to an unexpected shortfall. If it is expected that production shocks are likely to be correlated across suppliers in the market, then building up a grain reserve might turn out to be a useful insurance mechanism for a country (or a group of countries). Any build up should be gradual, to avoid or at least minimise further price escalation. Alternatives such as regional grain pools are possible, although their utility will be limited if production shocks are correlated across countries in the region.

Buffer stocks can also be used for targeted interventions, an example being India's Targeted Public Distribution System (TPDS). However, such systems can never be expected to operate perfectly. An evaluation of the programme in 2005<sup>25</sup> revealed that more than half of the subsidized food grains issued from the Central Pool did not reach below poverty line families because of identification errors, none transparent operation and unethical practices in the implementation of TPDS. The cost of handling of food grains by public agencies is also very high, and leakages and diversions further increase the delivery cost.

### **3.5 Long term productivity boosting measures**

Any long term sustained response to food shortages must come in the form of increased production of food grains. However, the past decades have been marked by declining public and private investments in agriculture, especially in staple food production. There have been well documented and significant reductions in government spending on agricultural research and extension services, for example, that have a long term negative impact on the potential for farmers, particularly at the small scale subsistence level, to increase their productivity,. It has also diminished the capacity of agricultural systems generally to respond efficiently to the crisis.

This reduced investment is one reason why higher prices, while being a strong incentive to farmers to increase production at least in the short term, may not in themselves be enough. It is highly likely that if market prices go down, as in 2008, there will quickly be a reduction in production since farmers are archetypal price followers. Public investments need to be concentrated at the small scale level; small scale irrigation and extension services for example. Much of the world's farming activity occurs on smallholder farms, with production at or below subsistence levels. Technology exists to boost productivity on these farms. However, such farmers have low assets, are often outside formal credit markets, and have high degrees of risk aversion that make it difficult for them to make even the initial investments that would increase production.

<sup>24</sup> For example, a fall in the world price to a particular level, or a well defined and verifiable eligibility condition.

<sup>25</sup> "Performance Evaluation of Targeted Public Distribution System (TPDS)," Planning Commission, Government of India, New Delhi, 2005.

It is essential to consider, within the range of productivity boosting measures, input supply programmes. Long term productivity increases can undoubtedly result from the use of superior inputs (fertilizers, improved seeds<sup>26</sup>, and planting materials), adoption of better farming practices including those related to water management and resource conservation (for which a strong extension system may be a necessary precondition), and participation in agricultural credit, insurance, input and product markets. The last, in particular, takes time to develop, but is often a necessary precursor to private investment in better technology. At the same time, as was illustrated graphically in 2006 and 2007, the severity of a crisis may well require a quick increase in production.

It may therefore be justified to institute targeted, fiscally responsible subsidies to encourage the adoption of critical inputs by small holder farmers while measures to facilitate their access to markets<sup>27</sup> are being put into place. However, it is essential that there is, from the outset, a well defined exit strategy or physical time limit placed on the intervention. As the experience of 2006-2008 shows, such subsidies can have dramatic effects where yields have been low to start with. At the same time, if the programme does not have a well defined, politically feasible exit strategy, its costs will escalate over time and may well strain already fragile national budgets in low income countries. It is essential that there is further investigation of the design of implementable, targeted, limited duration input subsidy programmes. This is all the more urgent, given the experience of the recent crisis where there was a significant will to re-introduce input subsidies, and it is vital that all earlier experiences with them are used to guide their future utilisation in the most constructive way possible.

It is possible that small farm productivity can be boosted, and the benefits of higher market prices passed on, at least partially, to small formers, through contract farming, especially when it is accompanied by input supply and training. An extension of these arrangements can result from the initiative by some countries to lease farmland in others, although the contracts at the top level are likely to be between the contracting country and agribusiness corporations. The terms of such agreements, and how they are set, are important in determining the net balance of costs and benefits in the producer country. On the one hand, they have the potential to introduce yield enhancing methods and inputs and offer farmers a price floor that could be particularly advantageous during a production glut. Conversely, this very feature could be detrimental to farmer profits, and producer country food security in the event of a production deficit. There is also concern that such arrangements could contribute to lower volumes coming into the spot markets, further increasing price volatility. Further study is required to identify best practices among such innovative captive farming systems, where production takes place in territories outside the jurisdiction of consumer countries, before it can be considered as a viable policy option.

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26 Genetically modified crops are believed to have the potential to increase yields and to improve tolerance to adverse conditions across a variety of crops. According to an FAO inventory <http://www.fao.org/Ag/Magazine/0111sp.htm> accessed August 26, 2008), of the approximately 44.5 million ha under such crops in 2001, most were devoted to soybean, maize, cotton and canola. Almost all of this was in developed countries. It concluded that the current GMO crop releases were still very narrow in terms of crops and traits, and not directed at meeting the needs of developing countries. More importantly, adoption of these crops is fraught with many concerns such as their potential negative effects on human health, their impact on native strains and the denial of traditional access to breeding materials. Countries need to strike the balance so that these crops can make an optimal contribution to food security.

27 Apart from the physical infrastructure needed to improve transportation and link farms to markets, attention must also be paid to improving access to information about prices and market conditions at all levels. One innovative approach used in Malawi has been through strengthening farmers' associations, which have traditionally been vehicles for extension, into agencies for collective marketing of produce. Another approach that can introduce farmers to markets is through contract farming, although the extent to which it can work with small farmers is not yet clear.

## 4. Conclusions

The sharp increase in food commodity prices from 2006 until mid 2008 raised serious concerns in a number of significant areas; food and nutrition deficiencies among poor people in developing countries, inflation, the world's long term capacity to feed itself, and in some countries civil unrest. Although real prices are still below their mid-1970s peak, they have reached their highest point since that time. In consequence all governments, both of developing and developed countries, have roles to play in learning from the recent production shortfalls and consequent price volatility.

From March 2007 to March 2008 the FFPI rose by 57 percent, compared with a 9 percent increase from 2005 to 2006. Nearly every agricultural commodity formed part of that rising price trend. Since 2000, for example, a year of low prices, the wheat price in the international market has more than tripled and maize prices have more than doubled. The price of rice rose to unprecedented levels in March 2008. Dairy products, meat, poultry, palm oil, and cassava also experienced price hikes.

National governments and international actors are taking various steps to try to minimize the effects of higher international prices for domestic prices and to mitigate impacts on particular groups. Some of these actions are likely to help stabilize and reduce food prices, whereas others may help certain groups at the expense of others and/or might actually make food prices more volatile in the long run and seriously distort trade. What is needed is effective and coherent action to help the most vulnerable populations cope with the drastic and immediate hikes in their food bills and at the same time help farmers to meet the rising demand for agricultural products.

### 4.1 The Background to Recent Price Volatility

A variety of factors combined to produce the recent imbalances in world food supply and demand. A significant factor has been the high price of energy. Energy and agricultural prices have become increasingly intertwined, as can be seen in Figure 10 below, which is based on recent FAO and IMF economic data.

**Figure 10: World Commodity Prices 2000-2008; Inter Relationship of Oil and Food Commodity Prices**



With oil prices at all-time high levels from 2006 until mid 2008, combined with various governments providing subsidies for farmers to grow crops for energy, farmers around the world have significantly shifted their cultivation to bio fuel feedstock, especially maize, often at the expense of crops for human consumption. It is estimated, for example, that about 30 percent of U.S. maize production will go into ethanol in 2008 rather than into world food and feed markets. High energy prices have also made agricultural production more expensive by increasing the cost of mechanical cultivation, inputs like fertilizers and pesticides, and transportation of inputs and outputs.

At the same time, the growing world population is demanding more and different kinds of food. Rapid economic growth in many developing countries has increased consumer purchasing power, generated a rising demand for food, and shifted food demand away from traditional staples toward higher value foods like meat and milk. This dietary shift has led to increased demand for grains used to feed livestock. Adverse weather conditions and commodity markets speculation have also played a role in food price volatility. Severe drought in Australia, for example, one of the world's largest wheat producers, significantly reduced global wheat production.

#### 4.2 The Impact of Recent Price Volatility

Higher food prices have radically different effects depending on the characteristics of the countries and population groups. At the country level, countries that are net food exporters will benefit from improved terms of trade, although some of them reduce this potential windfall by imposing export restrictions to protect consumers. Net food importers, in contrast, struggle to meet domestic food demand. Given that most of the less developed countries in Eastern Europe and Central Asia are net importers of cereals, they are inevitably adversely affected by rising prices. At the household level, surging and volatile food prices affect most those who are the most disadvantaged. The few poor households that are net sellers of food will benefit from higher prices, but households that are net buyers of food, by far the greatest majority of the world's poor, will be adversely affected. Subsequent responses to price surges, and adjustments in the rural economy, which can create new income opportunities, inevitably take time to reach the poor.

Human nutrition of low income groups is also at risk if they are not shielded from price rises. Higher food prices lead poor people to limit their food consumption and shift to even less balanced diets, with harmful effects on health in both the short and long run. At the household level, the poor spend about 50 to 60 percent of their overall budget on food. For families living in this situation, even moderate increases in food prices can have a dramatic effect on their purchasing power. When prices surge, as they did from 2006 onwards, the effect can be catastrophic. This underlies the graphically reported and publicised food demonstrations and protests that occurred in many countries around the region in the last two years.

### **4.3 Policy Responses to Date**

Many countries have taken immediate measures to try to minimize the effects of higher prices on their populations. Some, including China, Egypt, India, Indonesia, Kazakhstan, Russia, Ukraine, and Vietnam, have opted to restrict food exports, and/or set limits on food prices. China, for example, banned rice and maize exports; and India has banned milk powder exports. Other countries have reduced restrictions on imports: Morocco, for instance, cut tariffs on wheat imports from 130 percent to 2.5 percent and Nigeria cut rice import tax from 100 percent to 2.7 percent.

Such responses can be considered effective only as short term policy initiatives. Price controls and changes in import and export policies can for a relatively short time period address the problems of poor consumers who find that they can no longer afford an adequate diet for a healthy life. However, in the longer term the effect can be reversed, in consequence of international markets becoming smaller and more volatile. In addition, price controls reduce the price that farmers receive for their agricultural products and hence reduce their incentive to produce more food.

Any long-term strategy to stabilize food prices must include measures to increase agricultural production; price controls fail to send to farmers market signals that encourage them to produce more. In addition, by benefiting all consumers, even those who can afford higher food prices, price controls inefficiently divert resources toward helping a significant proportion of the population who do not require assistance. Export restrictions and import subsidies also have harmful effects on trading partners that are dependent on imports. Also, trade restricting policies undermine further the benefits of global integration, as the existing trade distortions of more developed countries with respect to developing countries are increased yet further by the interventions of developing countries against each other. There is, in consequence, a real need, at a time when the price surge, at least for food commodities, has abated to review dispassionately and objectively the experiences of the last three years and to use that experience to develop more effective policies to strengthen market resistance to supply demand imbalances in the future.

### **4.4 Justifiable Policy Initiatives**

The policy issues and options, that are both discussed in this paper and proposed in this section, are fully justified by the recent experiences felt throughout the world as a result of the surge in food prices. Even if, for the short term at least, market prices for food commodities have returned to more or less normal levels, it cannot and must not be assumed that price surges will not happen again. World agriculture continues to face challenges that, along with other existing forces, pose risks for poor people's livelihoods

and food security. Land is now in demand, not only to produce food and to provide shelter and comfort for the world's population, but also in significant quantities it is in demand for production of energy. This situation justifies policy initiatives in three areas:

1. Comprehensive and above all sustainable social protection and food and nutrition initiatives to meet the short and medium term needs of the poor and to serve as the basis for emergency response channels in times of food crises;
2. Broad based investment in agriculture, particularly in agricultural research, technology, and extension and in market access, at a national and international scale to address the long term challenge of increasing supply; and
3. Trade policy reforms, in which both developed and developing countries revise their agricultural trade, and where relevant bio fuel, policies.

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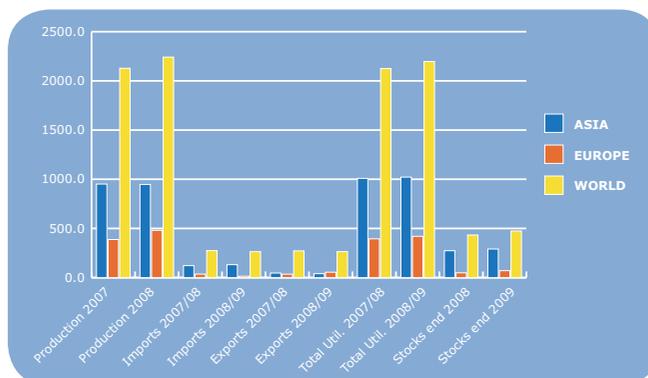
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## TRENDS IN THE PRODUCTION OF MAJOR FOOD COMMODITIES 2007-2009

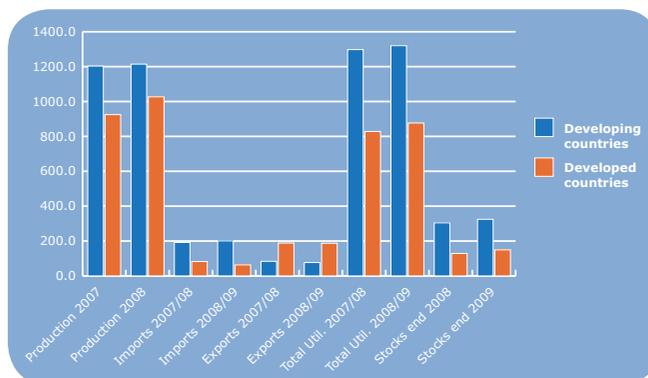
### Production of Cereals by Region in 2007-2009 (million tonnes)

	Production		Imports		Exports		Total Utilization		Stocks ending in	
	2007	2008	2007/08	2008/09	2007/08	2008/09	2007/08	2008/09	2008	2009
	estim.	f'cast	estim.	f'cast	estim.	f'cast	estim.	f'cast	estim.	f'cast
<b>ASIA</b>	<b>951.3</b>	<b>947.2</b>	<b>121.7</b>	<b>131.5</b>	<b>46.5</b>	<b>40.0</b>	<b>1008.8</b>	<b>1021.6</b>	<b>273.6</b>	<b>290.8</b>
<b>EUROPE</b>	<b>387.5</b>	<b>480.5</b>	<b>35.7</b>	<b>17.1</b>	<b>35.0</b>	<b>55.2</b>	<b>394.3</b>	<b>419.9</b>	<b>48.9</b>	<b>70.4</b>
<b>WORLD</b>	<b>2 128.2</b>	<b>2 241.5</b>	<b>274.4</b>	<b>264.0</b>	<b>272.0</b>	<b>264.0</b>	<b>2 126.0</b>	<b>2 197.0</b>	<b>433.2</b>	<b>474.0</b>
Developing countries	1203.3	1214.4	192.0	200.8	83.7	76.7	1297.7	1320.1	304.3	324.6
Developed countries	924.9	1027.0	82.4	63.2	188.3	187.3	828.3	876.8	128.9	149.4
LIFDCs	915.7	932.7	83.6	86.1	22.9	22.1	960.3	977.4	255.9	275.2
LDCs	131.1	130.3	20.3	20.9	5.4	4.9	146.1	148.0	26.3	24.9
NFIDCs	72.8	75.5	42.2	42.4	6.2	6.3	110.6	112.6	15.8	14.9

### Production of Cereals by Region in 2007-2009 (million tonnes)



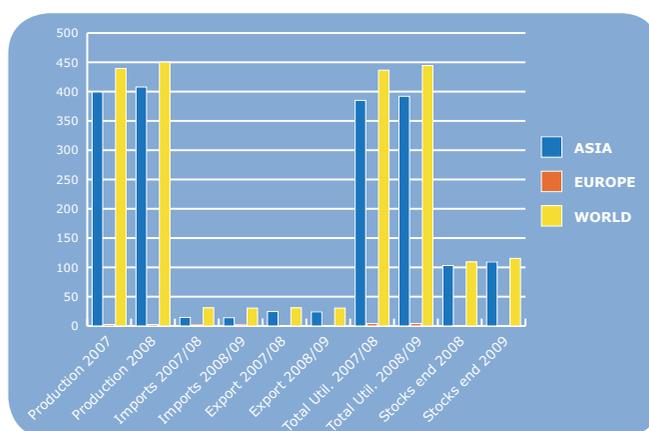
### Production of Cereals by Region in 2007-2009 (million tonnes)



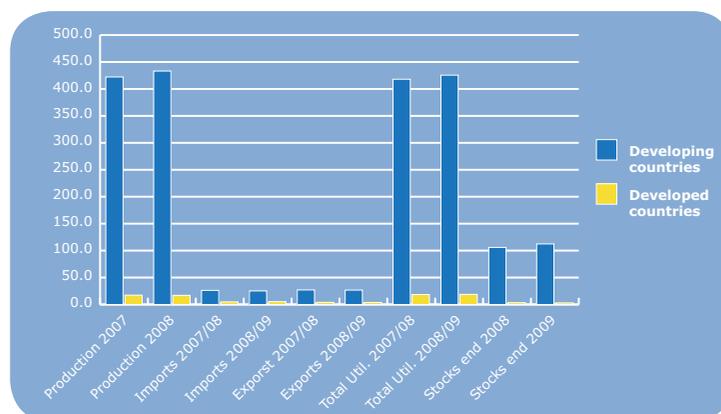
Production of Rice by Region in 2007-2009 (million tonnes)

	Production		Imports		Exports		Total Utilization		Stocks ending in	
	2007	2008	2008	2009	2008	2009	2007/08	2008/09	2008	2009
	estim.	f'cast	estim.	f'cast	estim.	f'cast	estim.	f'cast	estim.	f'cast
<b>ASIA</b>	<b>399.3</b>	<b>407.8</b>	<b>14.6</b>	<b>14.1</b>	<b>24.6</b>	<b>24.1</b>	<b>385.0</b>	<b>392.0</b>	<b>103.2</b>	<b>109.3</b>
<b>EUROPE</b>	<b>2.5</b>	<b>2.4</b>	<b>1.8</b>	<b>2.0</b>	<b>0.2</b>	<b>0.3</b>	<b>4.1</b>	<b>4.1</b>	<b>0.6</b>	<b>0.6</b>
<b>WORLD</b>	<b>439.5</b>	<b>450.2</b>	<b>31.0</b>	<b>30.5</b>	<b>31.0</b>	<b>30.5</b>	<b>436.5</b>	<b>444.4</b>	<b>109.3</b>	<b>115.4</b>
Developing countries	422.2	433.2	26.2	25.2	27.0	26.7	418.0	425.6	105.9	112.4
Developed countries	17.3	17.0	4.9	5.3	4.0	3.8	18.5	18.8	3.4	3.0
LIFDCs	333.3	342.9	16.9	15.9	9.9	11.0	334.6	341.9	89.1	95.1
LDCs	64.5	64.8	7.0	6.8	1.6	1.8	70.4	71.2	12.7	11.4
NFIDCs	16.2	18.0	2.6	2.5	3.7	4.0	15.0	15.9	2.2	2.9

Production of Rice by Region in 2007-2009 (million tonnes)



Production of Rice by Region in 2007-2009 (million tonnes)

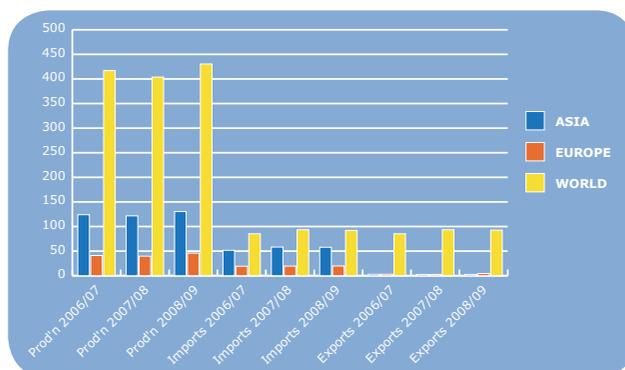


Production of Oil Crops by Region in 2007-2009 (million tonnes)

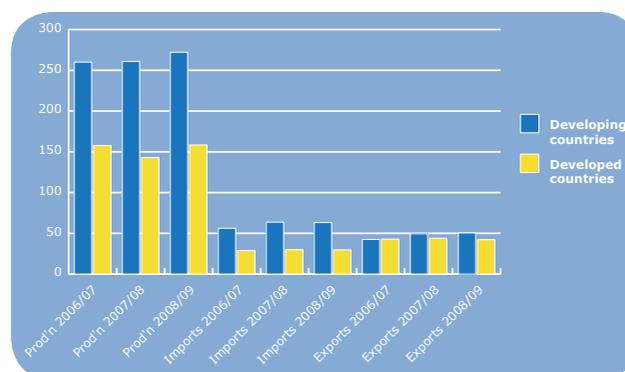
	Production <sup>1</sup>			Imports			Exports		
	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
		estim.	f'cast		estim.	f'cast		estim.	f'cast
<b>ASIA</b>	<b>124.0</b>	<b>121.7</b>	<b>130.4</b>	<b>51.6</b>	<b>58.2</b>	<b>57.8</b>	<b>2.9</b>	<b>2.6</b>	<b>2.6</b>
<b>EUROPE</b>	<b>41.1</b>	<b>39.7</b>	<b>45.8</b>	<b>19.3</b>	<b>19.6</b>	<b>19.8</b>	<b>3.0</b>	<b>2.6</b>	<b>4.4</b>
<b>WORLD</b>	<b>417.7</b>	<b>403.8</b>	<b>430.5</b>	<b>85.3</b>	<b>93.5</b>	<b>92.9</b>	<b>85.3</b>	<b>93.5</b>	<b>92.7</b>
Developing countries	260.0	260.8	272.1	56.2	63.7	63.2	42.5	49.4	50.5
Developed countries	157.7	143.0	158.4	29.0	29.8	29.7	42.9	44.0	42.2
LIFDCs	127.6	124.9	133.5	35.8	42.4	42.2	3.3	3.0	3.1
LDCs	9.9	10.0	10.1	0.3	0.4	0.4	0.4	0.4	0.4
NFIDCs	7.4	6.9	7.1	3.8	3.4	3.9	0.2	0.1	0.2

1 The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown; for tree crops which are produced throughout the year, calendar year production for the second year shown is used.

Production of Oil Crops by Region in 2007-2009 (million tonnes)



Production of Oil Crops by Region in 2007-2009 (million tonnes)

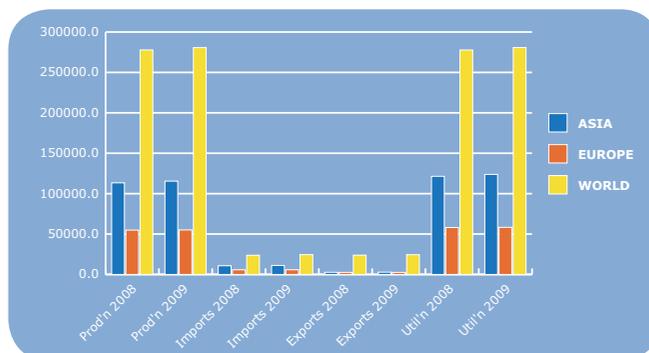


**Production of All Meats by Region in 2008 and 2009<sup>1</sup> (thousand tonnes, carcass weight equivalent)**

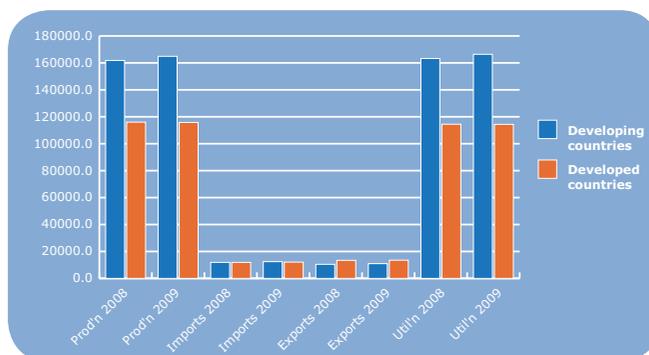
	Production		Imports		Exports		Utilization	
	2008	2009	2008	2009	2008	2009	2008	2009
	estim.	f'cast	estim.	f'cast	estim.	f'cast	estim.	f'cast
<b>ASIA</b>	<b>113 370</b>	<b>115 472</b>	<b>10 771</b>	<b>11 160</b>	<b>2 695</b>	<b>2 824</b>	<b>121 446</b>	<b>123 808</b>
<b>EUROPE</b>	<b>54 871</b>	<b>55 093</b>	<b>5 765</b>	<b>5 798</b>	<b>2 569</b>	<b>2 572</b>	<b>58 066</b>	<b>58 319</b>
<b>WORLD</b>	<b>277 843</b>	<b>280 689</b>	<b>23 766</b>	<b>24 530</b>	<b>23 860</b>	<b>24 468</b>	<b>277 750</b>	<b>280 751</b>
Developing countries	161 819	164 888	11 887	12 440	10 443	10 947	163 263	166 380
Developed countries	116 024	115 801	11 879	12 090	13 417	13 521	114 487	114 370
LIFDCs	102 425	104 223	4 229	4 308	1 626	1 686	105 027	106 845
LDCs	7 417	7 541	772	807	4	5	8 185	8 343
NFIDCs	9 528	9 746	1 319	1 403	109	114	10 738	11 035

<sup>1</sup> Including "other meat".

**Production of all meats by Region in 2008 and 2009 (thousand tonnes, carcass weight equivalent)**



**Production of all meats by Region in 2008 and 2009 (thousand tonnes, carcass weight equivalent)**



**Production of milk and milk products by Region in 2007-2009<sup>1</sup>  
(million tonnes, milk equivalent)**

	Production			Imports			Exports		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
		estim.	f'cast		estim.	f'cast		estim.	f'cast
<b>ASIA</b>	<b>238.5</b>	<b>246.8</b>	<b>255.9</b>	<b>18.6</b>	<b>19.0</b>	<b>19.0</b>	<b>5.0</b>	<b>4.8</b>	<b>4.9</b>
<b>EUROPE</b>	<b>214.5</b>	<b>216.6</b>	<b>218.7</b>	<b>5.5</b>	<b>5.8</b>	<b>6.1</b>	<b>12.7</b>	<b>12.8</b>	<b>12.4</b>
<b>WORLD</b>	<b>677.7</b>	<b>692.7</b>	<b>709.7</b>	<b>38.9</b>	<b>40.2</b>	<b>40.8</b>	<b>39.3</b>	<b>40.4</b>	<b>41.0</b>
Developing countries	316.7	328.1	340.3	28.3	29.5	29.8	8.3	8.4	8.7
Developed countries	361.0	364.6	369.4	10.6	10.7	11.0	31.0	32.0	32.3
LIFDCs	236.6	244.9	253.9	9.8	10.0	10.1	3.5	3.4	3.7
LDCs	25.4	25.8	26.1	2.1	2.2	2.2	0.1	0.1	0.1
NFIDCs	50.9	53.2	55.5	5.1	5.2	5.2	0.5	0.6	0.6

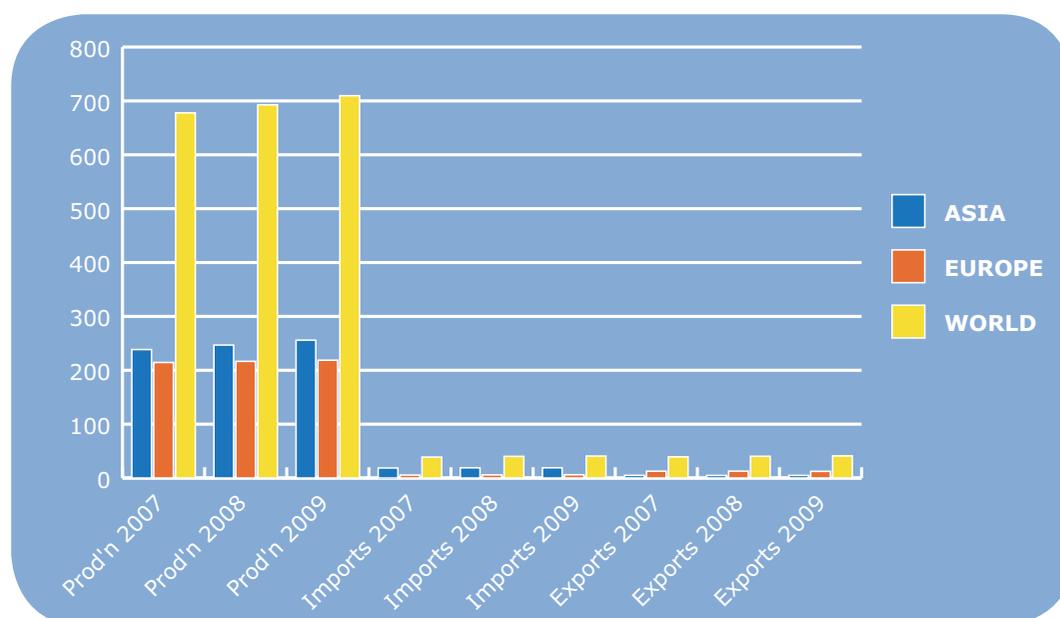
1 Dairy years starting April of the year stated (production only).

2 Dairy years ending June of the year stated (production only).

3 Dairy years ending May of the year stated (production only).

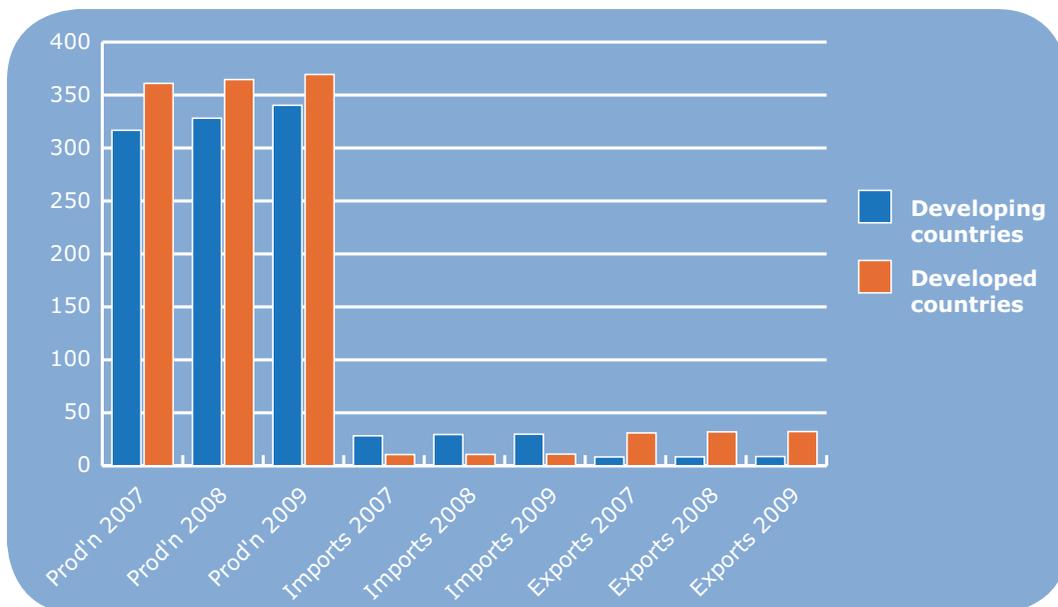
Note: Trade figures refer to the milk equivalent trade in the following products: butter (6.60), cheese (4.40), milk powder (7.60), skim condensed/evaporated milk (1.90), whole condensed/evaporated milk (2.10), yoghurt (1.0), cream (3.60), casein (7.40), skim milk (0.70). The conversion factors cited refer to the solids content method. Refer to IDF Bulletin No. 390 (March 2004).

**Production of Milk and Milk Products by Region in 2007-2009<sup>1</sup>  
(million tonnes, milk equivalent)**



1 Dairy years starting April of the year stated (production only).

**Production of Milk and Milk Products by Region in 2007-2009  
(million tonnes, milk equivalent)<sup>1</sup>**



<sup>1</sup> Dairy years starting April of the year stated (production only).

## 3. EFFECT OF THE 2006-2008 FOOD PRICE SURGE IN SELECTED COUNTRIES

### Summary

This paper summarises the effect of the 2006-2008 rising commodity and food prices in urban and rural areas in representative countries of the FAO Regional Office for Europe and Central Asia. It is based on invited national papers, presented and discussed at the Regional Consultation, from Albania, Armenia, Georgia, and Moldova. In each case, following an initial overview, the impact of food price fluctuations in recent years on the rural economy is assessed, from the viewpoint both of producers and consumers. This is followed by a description of possible policy responses to food price fluctuations that are considered appropriate for the country in question.

### 3.1 Experience of Albania<sup>28</sup>

#### 3.1.1 Overview

The increase and the fluctuation of the main agriculture goods prices in international markets during the last two years have been generally reflected immediately in the Albanian market for these goods. As the domestic production of such products covers a maximum of 20 – 25% compared to imports, increases of prices in international markets affect domestic prices quickly, in some cases even in the same trimester. However, when prices decrease there is often a much longer time lag before domestic market prices fall. Although, the data are limited and it remains difficult to attest based on official statistical data, it can be concluded that in the case of Albania the effect of price increases of main agriculture commodities in international markets are generally passed on to consumers and very little distributed between different market actors (wholesale trade, manufacturing, etc).

As well as consumers, small farmers have been facing the effects of agriculture commodity price increases in international markets. Based on partial surveys and data from relevant sources, it appears that the effects were positive for the group of farmers cultivating agriculture goods for which prices increased in the international market. Therefore, the increase in price in international markets concerning agriculture goods has stimulated an increase in planting from the larger and most consolidated agriculture farms of the country. However, for "small" farms<sup>29</sup>, principally subsistence and having limited abilities to compete in the domestic market, the effect is opposite. This is due mainly to the dramatic increase of prices for basic agriculture inputs such as fuel, fertilisers, seeds, and pesticides.

The increase/fluctuation of agricultural product prices in international markets and the effects in the agriculture sector have been the subject of Albanian government reactions. These reactions include legal measures intended to protect farmers and to

28 Paper prepared by Zef Preci, FAO National Consultant.

29 Such farms are considered as subsistence economy.

stimulate the production of particular products. As the period coincides with the start of the current Albanian government mandate, the action was primarily engaged to correct certain measures in relation to "the reimbursement scheme of petrol for agriculture and fisheries"<sup>30</sup>, which within a given time led to the suspension of the scheme itself. Another form of governmental intervention was the encouraging of particular programmes to support farmers<sup>31</sup>, although the total sum of the programme was and remained at a modest level. The most important instrument of government intervention is the effort to strengthen the "extension service" and improve the provision of information for agricultural products and markets. Despite these measures and other governmental interventions, it can be concluded that there has not been a significant effect.

The effect on the small farmers is expected to be relatively minor, especially when talking about subsistence farms. These farms produce mainly for their needs and sell only supplementary products. In this context, they are in a certain sense "isolated" from the increases in prices. Meanwhile, there is a significant difference between the increase of vegetable prices on the one hand, and the price of bread and corn on the other. The first can be considered short-term; in contrast to the second the increase appears to be more sustainable and long-term because of factors such as the increase in world demand, and the use of maize for bio energy. Due to the fact that bread occupies an important place in farm family consumption, as well as in Albanian families in general, the increase in bread prices will result in an increase in the areas planted to cereals. This effect is already recorded in Albania during the last two years.

The overall price effect is expected to be higher for commercial farms. However, it should be noted that the price paid by the consumer is quite different from the price paid to the farmer. There exist huge differences between the selling price at the farm gate and the price that traders sell to consumers. This confirms the lack of existence of a fair distribution of marketing margins, due to imperfect market conditions.

The increase of prices leads also to the risk of an over reaction by farmers in increasing their production, which results in a subsequent drastic decrease of prices, especially of fruits and vegetables at peak times of production. In this context, the government should invest or create partnerships with the private sector towards raising management capacities, including investments in storage and processing facilities. From the consumers point of view, the government should carefully evaluate the nutritional requirement of the consumer, especially of poor consumers.

### **3.1.2 Impact of Food Price Fluctuations in Albania**

The effect of the food price increase on consumers is more obvious in the low income groups. This is a consequence of the high proportion that spending for food occupies in the budget of this category of Albanian families. Food price trends in international markets and in Albania food and agricultural goods prices has followed an upward trend since 2001, with rates increasing faster during the second half of 2007.

According to the European Central Bank, the latest rise in food products prices is a result of supply-side factors, such as: energy price hikes, fertiliser price hikes, lower reserves and dry weather. However, demand-side pressures have not been insignificant, prompted by two factors: the first relates to consumer behaviour changes in some

<sup>30</sup> Known as "petrol without acise", a governmental program which facilitated the process of the agriculture workings of the agriculture mechanic.

<sup>31</sup> A program titled competitive grants, which has been implanted during the last 4-5 years.

developing countries, such as China and India; also, it relates to changes in agricultural products use in feeding animals. The second relates to government initiatives in developing alternative sources for fuel production (bio-fuel), by using agricultural raw materials. Hence, farmers have been inclined to produce these types of commodities (maize, for instance), leading to a supply reduction in other agricultural commodities and consequently to their price increase.

Food product price hikes in international markets have led to substantial price growth in almost every European country. However, the extent of the growth has varied in different countries. The market structure for retail trade, competitiveness and the distribution network may explain the varying reaction of retail traders to external shocks, and hence, variability in price consumption patterns for these products in different countries.

**Table 1: Annual inflation for "Foods and non-alcoholic beverages (%)"**

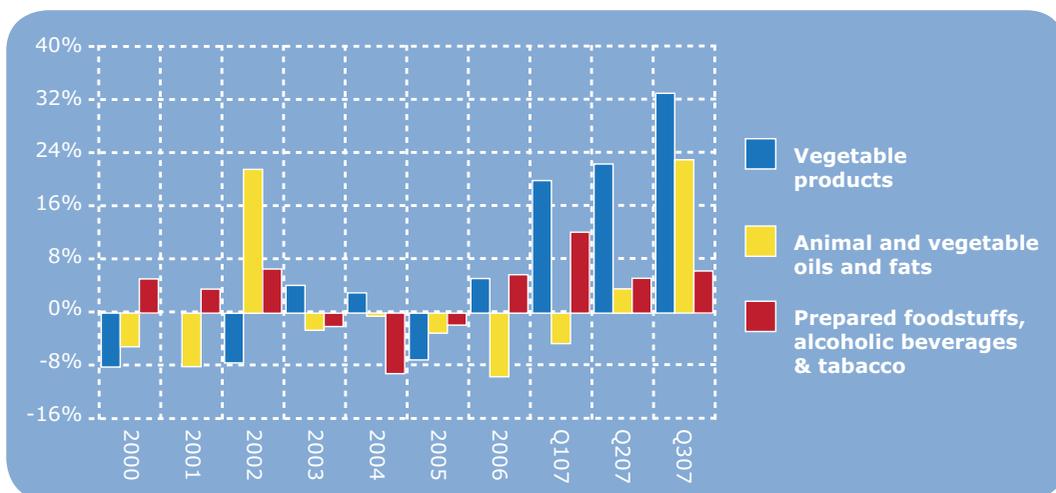
	EU	GR	IT	HU	SL	RO	TR	HR	MK	SR	AL
<b>2003</b>	1.9	4.9	3.2	1.4	4.5	14.6	27.6	n.a.	0.6	0.9	4.1
<b>2004</b>	3.0	0.9	2.1	5.6	0.2	9.4	8.6	0.2	-1.6	11.1	-0.1
<b>2005</b>	0.9	0.8	-0.1	1.6	-1.0	6.1	3.9	3.2	1.6	19.5	-0.4
<b>2006</b>	2.3	3.4	1.8	8.2	2.3	3.9	7.8	-2.0	3.3	10.6	1.1
<b>2007</b>	3.4	2.2	2.9	12.0	7.2	3.9	12.4	0.8	1.6	6.0	3.1
<b>2008 M1</b>	6.3	5.2	4.5	13.6	13.0	10.0	9.2				

Source: EUROSTAT, HCPI and National Statistics Institutes of the last 4 countries

Changes in food product prices worldwide effects ready-to-consume imported food product prices and on prices for raw materials used for domestic production in import-oriented countries, such as Albania.

Based on a regional comparative analysis, Albania is one of the countries that has felt the impact of price hikes in food products (particularly grains) the most. The burden of higher costs has been carried by domestic consumers, since the category of 'unprocessed foods' makes up the greatest share in the consumer goods' basket (approx. 24%), while domestic production falls short and prices are subject to speculation by retail traders.

**Chart 1: Annual change Index of per Unit imported food products (in %)**



Source: INSTAT

Source: BoA, 2007 Annual Report, page 42

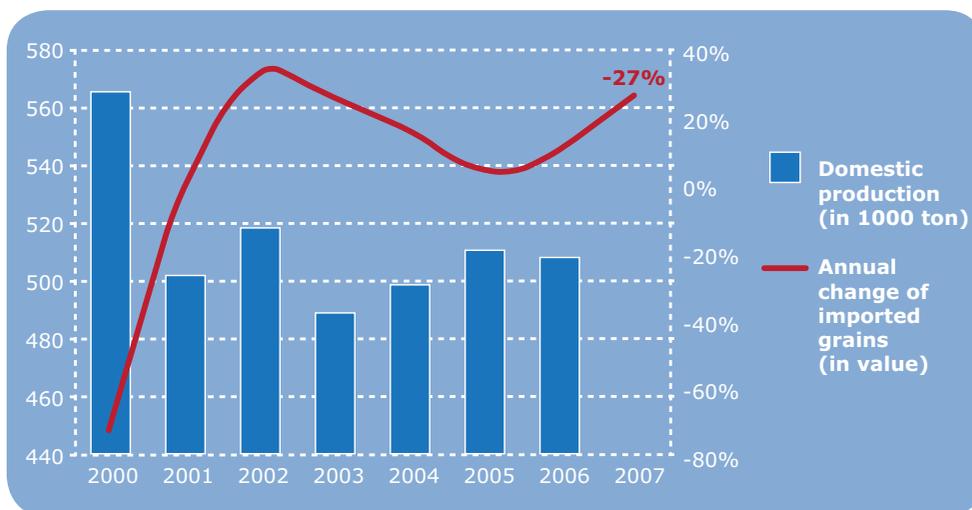
The future trends of food prices internationally and domestically remain uncertain. Although agricultural goods supply will almost certainly go up in response to rising demand, the adjustment period may be accompanied by added costs. In addition, food products price trends depend on factors that are hard to predict, including weather, technological innovations and energy policies. Furthermore, the greatest producers of grains have adopted protective policy measures, imposing higher tariffs on exported grains. The risk is estimated to be significant in the medium term.

The 'processed food' category reached an annual inflation rate of 9.5% and 10.6% during the last two quarters of the year in Albania. Interestingly, the annual inflation rate for this category had been almost negligible for the past 8 years. Since August 2007, high price levels have been driven by increases in domestic bread prices.

Prices of sub-category products such as dairy products and cooking oil have also gone up, reflecting higher costs of production due to the domestic power crisis, and higher prices of the same products in trade-partner countries such as Italy and Greece.

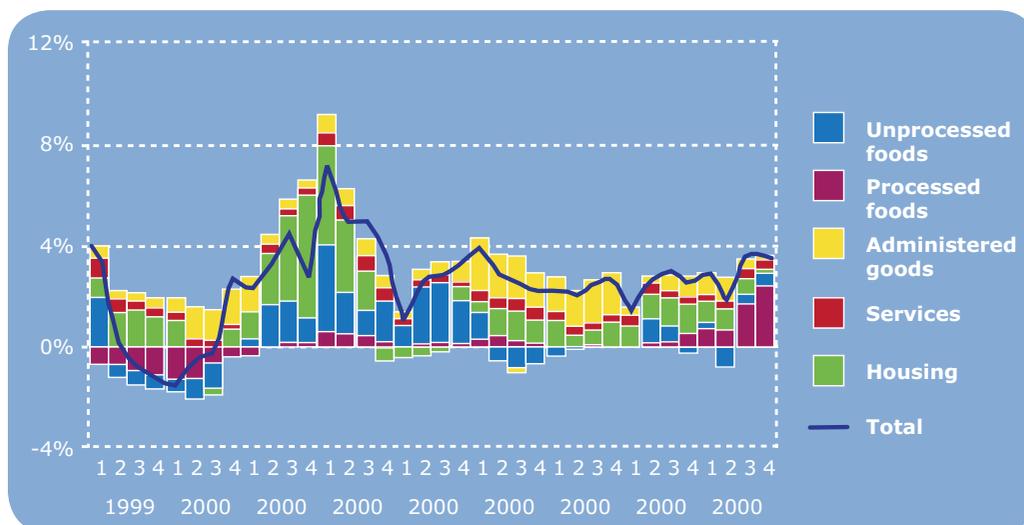
The annual inflation rate for the 'unprocessed foods' category fell slightly downward during the last quarter of the year (to 5.5%), relative to the 6.6% rate of the previous quarter. However, these rates were far from the rates of the first two quarters, that were -0.5 and -3.6% respectively. Vegetable prices saw the highest drop amongst all other goods in this category, on a per annual basis.

Chart 2: Domestic grain and imported grains



Source: Annual Statistics, MAFCR, ACIT  
Source: BoA, 2007 Annual Report, page 43

Chart 3: Contribution to annual inflation, as per category (in %)



Source: INSTAT and Bank of Albania estimations  
Source: BoA, 2007 Annual Report, page 43

**Table 2: Contribution to annual inflation, as per category (in %)**

	Q4-06	Q1-07	Q2-07	Q3-07	Q4-07
Unprocessed foods (pp)	0.5	0.7	0.6	1.6	2.4
- Bread and grains* (pp)	0.1	0.0	0.3	4.5	7.2
- Alcohol and tobacco* (pp)	1.6	1.7	1.9	1.3	0.7
Unprocessed foods (pp)	-0.2	0.2	-0.7	0.4	0.5
- Fruits* (pp)	-1.4	-2.4	-3.1	1.1	2.6
- Vegetables*(pp)	0.0	3.0	-0.6	1.7	-0.4
Services (pp)	0.2	0.2	0.3	0.4	0.4
Administered prices (pp)	0.9	0.8	0.8	0.4	0.1
- Fuel energy prices* (pp)	7.8	7.6	7.8	2.7	0.3
Housing (pp)	1.1	0.9	0.9	0.6	0.2
Consumer Price Index (y/y, %)	2.6	2.8	1.8	3.6	3.6

Source: INSTAT and Bank of Albania estimations

\*Category contribution to annual inflation.

Source: BoA, 2007 Annual Report, page 44

Price trends in this category are linked to domestic agricultural production, which – given favourable weather conditions – has helped to expand domestic supply at particular times of the year. Favourable developments in domestic supply have relaxed inflationary pressures stemming from high demand for staple consumer goods and high import prices.

### 3.1.3 Possible Policy Responses to Food Price Fluctuations in Albania

Based on Bank of Albania, INSTAT and ACIT data relating to the volume of imported and locally produced agricultural products, it is difficult to assert any strong correlation between price increases and the production of Albanian farms to date. Nevertheless, the general perception persists that this increase of prices in the world market, in the medium-term will create sufficient incentives to augment the production of the domestic farmers. Equally, some positive developments are expected in improvements in marketing, and increase of competition among inputs importers (which might lead to a decrease of their prices, etc), which would also stimulate the sustainable growth of production.

The orientation of Albanian farms towards market demands, although economically justified, seems still to be an intuitive orientation. Nevertheless, as already mentioned, there are already signs of revitalizing of production, especially of vegetables in the periphery areas of Tirana and other big cities in the western part of the country. As far as maize is concerned, the most serious barriers for an immediate response towards the price increase in western markets, seems to be the relatively high prices of agriculture inputs and the unclear competition among importing companies.

There can not be identified any direct policy initiatives in Albania in response to world food price volatility over the last two years. However, the Ministry of Agriculture and Food has drafted a Strategy for Agriculture and Food (MoAFCP) as a basic document and is in process of further drafting supporting policies mainly toward the development of arboriculture and agro-processing. According to Ministry officials, in the medium and long term period it aims to moderate the negative effects of

the price increases in world markets through the implementation of these policies. At the same time, through policies which lead to the improvement of irrigation, drainage and extension service provision, it is aimed to raise productivity, and to decrease agricultural production costs. These policies are designed to impede the further increase of prices for agricultural products produced in Albania<sup>32</sup>.

As a policy initiative, MoAFCP has achieved significant progress also towards the establishment of the Authority of Food. It is believed that this institution will play an important role in guaranteeing food security. It is well documented that in conditions of price increases Albanian traders have a tendency to offer on the market products which have passed the expiry date of use at lower prices compared with other normal products (as it is expired, he tend to sell it at a lower cost). The Authority of Food can play a significant role in preventing this market distortion in the future.

## 3.2 Experience of Armenia<sup>33</sup>

### 3.2.1 Overview

Armenia is a net food importing country, and during recent years the negative balance of food trade has been increasing (from \$ 142.6 million in 2003 to \$ 368.8 million in 2007). Naturally, prices on imported agricultural and food products in Armenia are more dependent on international prices. This relates particularly to wheat, vegetable oil, sugar, poultry meat, pork, coffee, and tea. Domestic agricultural production is self-sufficient for potatoes, fruits and vegetables, eggs, milk, and beef.

Through tight monetary and fiscal policies Armenia managed to achieve low levels of inflation. However, during the last three years prices of some important food staples such as wheat, rice, meat (especially pork), animal oil, and vegetable oil (especially sunflower oil) increased significantly, due to increasing world prices of food. For many products prices have doubled in dollar terms. Together with the price fluctuations in international markets, there were a number of other important factors that affected the behavior of prices on agricultural products and food, particularly:

- competition environment in the local market (e.g. existence of powerful groups in lucrative markets such as wheat, sugar, and vegetable oil result in a quick and big increase of prices when international prices go up, and a slower decrease when international prices go down);
- Structure of agricultural production (e.g. small size of agricultural farms) and weak market linkages;
- Government policies, including distribution of seeds and fertilizers; provision of subsidies to wheat producers; policies aimed at keeping inflation low; investigations and measures taken by the Commission for Protection of Economic Competition;
- Existence of a shadow economy;
- International donor assistance, e.g. FAO assistance; WB programmes; IFAD programmes.

32 According to Prof. M. Osmani, Director of Agricultural Policies Department, MoAFCP, personal communication, November 2008.

33 Paper prepared and presented at the Regional Consultation by Gagik Gabriyelian, FAO National Consultant.

Prices in Armenia have been strongly affected also by high rates of appreciation of the national currency, Armenian Dram (AMD), against the dollar and euro. The increase of prices in terms of the national currency has been notably lower than in dollar or euro terms. To some extent, this benefited consumers, but local market imperfections, and, particularly, anti-competitive practices jeopardized possible advantages/benefits of the appreciation of the national currency.

Main losers in this situation are consumers. Households, especially poor households, bear most of the burden. Although pensions and salaries have increased and more than doubled during the past five years, the share of food expenditures in the household budget increased and still remains very high at more than 40 percent. Small farmers, also, have not received the possible benefits from increasing prices, due to their low bargaining power and low marketing capabilities, e.g. small farmers could not negotiate higher prices with processors, who are the main bulk buyers of agricultural products. Moreover, farmers have been negatively affected by the increase of input prices (e.g. fertilizers, seeds).

In practical terms, the winners in this situation are importers and food processors, especially those who have dominant market power and are able to affect (and frequently dictate) prices in the local market, and via anti-competitive arrangements keep prices higher and get high profit margins. At the same time, processors are able "to keep prices low" when they purchase primary agricultural products from farmers as raw material for their production. Another group of winners are intermediary traders (so called "second chain" traders), who buy products from small farmers and sell it in the marketplace.

Recent fluctuations in world food prices pushed the Government of Armenia to pay more attention to food security and try to achieve higher levels of self-sufficiency in main food staples. The response of the Government of Armenia to increasing prices can be viewed through several dimensions:

- Tight monetary and fiscal policies, through which the Government, as one of its main priorities, tries to keep inflation low;
- Provision of subsidies to farmers to promote better use of agricultural land and the production of important (for food security) agricultural products (e.g. wheat);
- Measures aimed at increasing agricultural productivity via promotion of the use of higher quality inputs and technologies (e.g. seeds, fertilizers, use of machinery);
- Prevention of anti-competitive practices that lead to unjustified higher levels and longer periods of price increases.

### **3.2.2 Impact of Food Price Fluctuations in Armenia**

Armenia is a net food importing country, and during recent years the negative balance of food trade has been increasing. Main import items include: wheat and wheat products, legume crops, rice, vegetable oil, sugar, poultry meat, beef, fruits and vegetables, coffee, tea. Major items of export include alcoholic beverages (particularly Armenian brandy(cognac) and wine), and fruits (fresh and dried) including grapes. Food and agricultural exports from Armenia have accounted for over 10% of Armenia's exports over the past years. Alcoholic beverages sector is the driving force of the agro-processing sector, and accounts for 80% of agri-food exports from Armenia. Over 90% of exported alcoholic beverages is Armenian Brandy. Other export items include fresh and dried fruits and vegetables; preserved fruits and vegetables, and juices. Domestic agricultural production provides self-sufficiency for potatoes, fruits and vegetables, eggs, milk, beef.

**Table 1: Exports and imports during 2003-2008, USD million<sup>34</sup>**

	2003	2004	2005	2006	2007	2008 I quart	2008 II quar- ter	2008 III quarter
Total exports, of which:	685.6	722.9	973.9	985.1	1152.3	234.0	286.0	312.5
Food exports	81.2	82.9	114.1	122.8	169.6	39.8	45.7	65.6
Total imports, of which	-1279.5	-1350.7	-1801.7	-2191.6	-3267.8	-846.8	-1056.6	-1223.2
Food imports	-223.8	-282.7	-315.9	-343.5	-538.4	-129.8	-184.7	-183.9
Balance of food trade	-142.6	-199.8	-201.8	-221.7	-368.8	-90.0	-139.0	-118.3

**Table 2: Food self sufficiency ratio, 2002-2007, %**

	2002	2003	2004	2005	2006	2007
Wheat	45.2	40.7	41.6	43.7	31.6	36.7
Potatoes	99.5	99.4	99.7	99.9	99.7	99
Vegetables	102.8	102.5	102.2	101.7	100	100
Fruit (ex. grapes)	94.6	94	86.5	95.7	96.9	89.4
Legume cops	46.7	60.2	63.4	58.7	48.8	52
Vegetable oil	8.8	10.3	2.9	1.5	14.1	1.3
Sugar	0	0	0.9	1.8	3.6	3.5
Eggs	102.7	104.2	108.4	101.8	99.2	99.3
Milk (ex. butter)	98	98.4	98	99.8	98.1	96.5
Beef	77.3	75.5	73.9	76.8	79.7	84.7
Pork	73.1	65.3	54.8	57.3	64.9	54.3
Mut.& goat meat	100	100	100	100	100	100
Poultry	25.6	27.9	24.3	18.7	32.3	16.9
Grapes	97.2	95.5	98	98.2	97.9	100

Naturally, domestic prices of imported agricultural and food products in Armenia are more dependent on international prices, and were strongly affected by the world price spike of 2007-2008. This relates, particularly, to wheat and wheat products, vegetable oil, poultry meat, pork, coffee, tea. For monthly fluctuations of international prices and prices in Armenia see tables 3 and 4 below.

During 2006-2008 prices of food increased significantly. Price increases have been especially high in relation to wheat and wheat products (by around 50 %), pork (by over 85%), animal oil (52%) and vegetable oil (62%), rice (by over 30 %), and fish (over 30%). These price changes are expressed in terms of Armenia's national currency – Armenian Dram (AMD). It has to be noted that due to significant appreciation of Armenia's local currency during recent years, the price increase in terms of the local currency has been considerably lower than if considered in terms of US dollars (for comparison, see table 4 below).

<sup>34</sup> The source of all figures used in this report on Armenia's economy and agri-food market is the National Statistical Service of Armenia, if not specified otherwise.

**Table 3: Price indexes, 2000-2008, % compared to the previous year**

	2000	2001	2002	2003	2004	2005	2006	2007	2008		
									I q	II q	III q
CPI	99.2	103.1	101.1	104.7	107	100.6	102.9	104.4	107.9	110.1	111.2
Food PI (ex. alc & tobac)	94.1	104.7	102.2	106.9	110.9	100.8	103.3	106.7	111.9	112.9	113.8
Cereals	96.7	97.6	97.9	108.6	120	93.9	98.6	109.1	127.4	140.6	133.7
Meat products	95	107.2	101.3	105.5	113.3	104.2	103.9	100.3	103.3	105.7	108.3
Fish products	93.7	115	140.2	109.2	121.5	151.9	114.2	170.8	158.2	100.9	75.8
Diary products	94.3	105	100.3	97.4	106.4	103.3	101.8	102.8	104	103.6	103.7
Eggs	91.5	102.3	108.2	103	115.4	104.2	102	106.3	95.3	99.4	97.3
Animal and veg. fat and oil	90.4	98.3	101.5	104	106	99.4	99.1	106.5	127.5	140.5	135.5
Fruits	83.4	126.2	120.7	121.4	114.1	101.2	98.6	124.2	107	96.3	87.5
Veg. & potato	90.9	127	104.3	111	94.4	105.5	122.9	110	101.9	80.7	85.4
Sugar	96.6	112.7	99.4	101.9	96.8	98.2	123.9	86.3	83.5	89.5	93.3
Coffe, tea and cocoa	92	96.5	98.4	100.3	101.2	101.7	103.5	103.3	104.5	116.5	119.5
Confectionery	96.6	98.3	101.3	101.6	102.8	102.8	100.7	101.3	104	104.6	105.4
Other	97.3	97.2	99.9	99.2	101.3	103.8	112.8	101.1	102.3	109	116.3

**Table 4: Comparison of retail food prices (September 2008/December 2006)**

Product	\$ change	AMD change	Product	\$ change	AMD change
Wheat	1.79	1.49	Home-made cheese	1.22	1.01
Bread(I quality)	1.68	1.40	Eggs	0.97	0.80
Bread(high quality)	1.75	1.45	Animal oil	1.83	1.52
Flour(high quality)	1.94	1.61	Margarine	1.62	1.35
Macaroni	1.47	1.22	Vegetable oil	1.96	1.62
Rice	1.61	1.33	Apple	0.90	0.75
Bean	1.38	1.14	Pear	1.25	1.04
Beef	1.28	1.06	Grapes	0.77	0.64
Mutton	1.53	1.27	Watermelon	0.35	0.29
Pork	2.23	1.85	Melon	0.37	0.30
Poultry	1.14	0.95	Cabbage	1.07	0.88
White-fish	1.61	1.33	Bulb onion	1.19	0.98
Milk	1.24	1.03	Potatoes	0.57	0.47
Cheese"Chanakh"	1.30	1.07	Sugar	0.97	0.81

Together with the price fluctuations in international markets, there were a number of other important factors, discussed below – such as local competition environment, the structure of agricultural production, exchange rate, Government policies – that affected the prices of agricultural products and food in Armenia. In some cases, due to these factors the movement of local prices differed from those of equivalent prices in international markets.

- **Exchange rate:** As noted already, prices in Armenia have been strongly affected by high rates of appreciation of the national currency, AMD, against the dollar and euro. In general, appreciation of the AMD has been a major factor affecting Armenia's economic performance (including export/import performance, local prices, etc.). In 2007, appreciation of Armenia's national currency against USD and Euro was the highest among European and CIS countries (about 18% and 10%, respectively). Since 2003, appreciation of AMD against USD has been more than 45%, and against the Euro more than 35%. The increase of prices in terms of the national currency has been notably lower than in dollar or euro terms. To some extent, this benefited consumers, but local market imperfections, and, particularly, anti-competitive practices jeopardized possible advantages/benefits of the appreciation of the national currency.
- **Competition environment in the local market** has been an important factor affecting the process of price formation in Armenia. The existence of power groups in so called lucrative markets such as wheat, flour, rice, sugar, and vegetable oil resulted in "a quite quick and higher increase of prices when international prices go up, and a slow and smaller decrease when international prices go down"). In several product markets (e.g. wheat, vegetable oil, rice, etc.) dominant players entered into anti-competitive arrangements leading to inadequately higher and longer increase of prices. This situation has been exacerbated also by the existence of a quite big shadow economy.
- **The structure of agricultural production:** small size of agricultural farms, subsistence farming, weak market linkages and information flows, and number of other market imperfections lower the efficiency of agri-food markets and created distortions of price behaviour;
- **Government policies** have also been an important factor. This relates particularly to state support to farmers (e.g. the distribution of seeds and fertilizers; provision of subsidies to wheat producers); monetary policies aimed at keeping inflation low; investigations and measures taken by the Commission for Protection of Economic Competition (CPEC) against anti-competitive practices.
- **International donor assistance**, e.g. FAO assistance; WB programmes; IFAD programmes, etc.

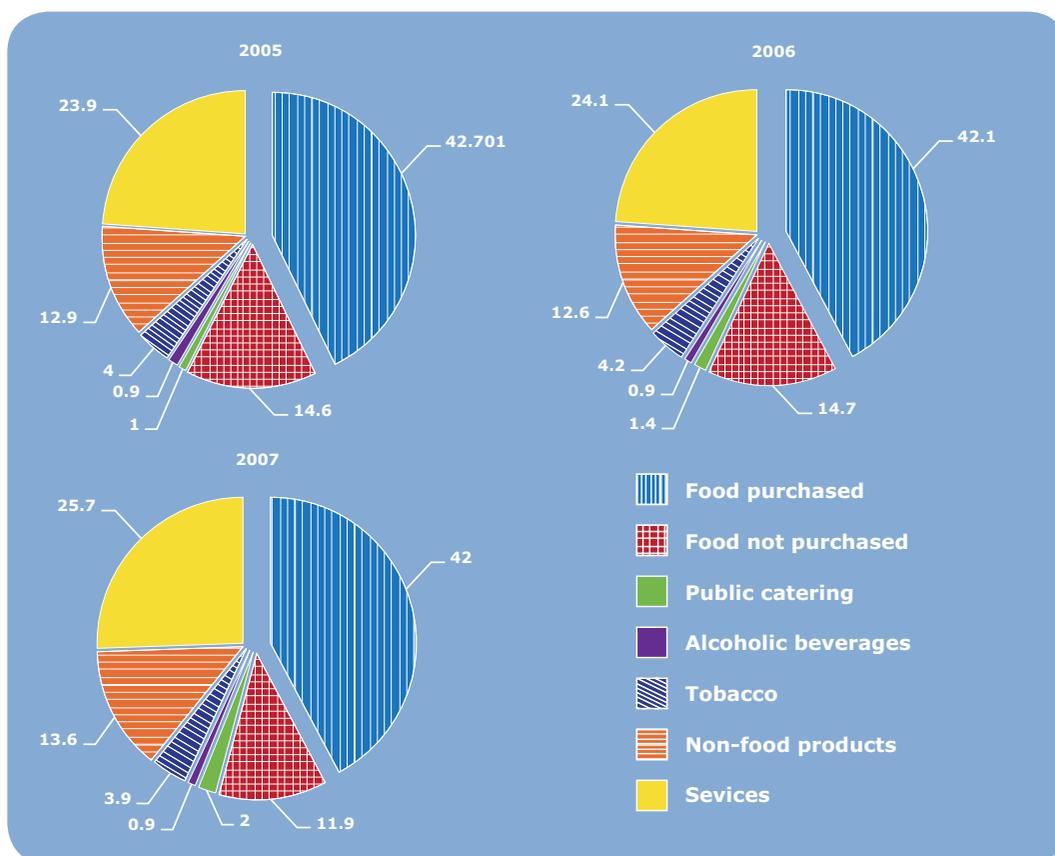
Households (as consumers of agricultural products and food) were, in fact, the main losers from recent price fluctuations, together with small farmers (as both consumers and producers of agricultural products). The share of food expenses in Armenian household budgets is quite big: food (both purchased and not purchased) accounts for more than half of monthly current expenses of an average household in Armenia. In 2007, the share of expenses on food without alcoholic beverages was about 56% of monthly expenditures of households.

Table 5: Monthly expenses per household (2005-2007)\*

	2005		2006		2007	
	AMD	%	AMD	%	AMD	%
<b>Food purchased</b>	32,479	42.7%	36,260	42.1%	40,411	42%
<b>Food not purchased</b>	11,089	14.6%	12,722	14.7%	11,474	11.9%
<b>Public catering</b>	753	1.0%	1,183	1.4%	1,893	2.0%
<b>Alcoholic beverages</b>	658	0.9%	803	0.9%	900	0.9%
<b>Tobacco</b>	3,075	4.0%	3,636	4.2%	3,723	3.9%
<b>Non-food products</b>	9,826	12.9%	10,883	12.6%	13,040	13.6%
<b>Services</b>	18,134	23.9%	20,743	24.1%	24,697	25.7%
<b>National average</b>	76,014	100.0	86,230	100.0	96,138	100.0

\* Expenditures do not include expenses on the procurement of durable goods

Figure 1: Monthly expenses per household (2005-2007)



It is important to note that monthly food expenses in the average household budget did not change very much, despite the fact that monthly household incomes increased significantly during recent years; pensions and salaries, for example, have more than doubled during the past five years, but the share of purchased food expenditures in household budgets still remains very high at more than 40 percent. This can be explained not only by increasing prices of agri-food products, but also by increased volume of per capita food consumption; and average incomes did not yet reach higher levels that allow for more non-food expenditures.

**Table 6: Monthly average wages and pensions**

	2003	2004	2005	2006	2007
<b>Nominal monthly wage, AMD</b>	34 046	43 430	52 059	64 278	77 469
<b>Nominal increase, compared to the previous year, %</b>	25.1	27.6	19.9	24.0	21.2
<b>Real increase, %</b>	19.6	19.2	19.2	20.5	16.1
<b>Nominal monthly pension, AMD</b>	7 452	8672	9724	10 912	12 746
<b>Real increase, %</b>	23.9	10.9	11.5	9.05	11.8

**Table 7: Structure of per capita monetary income of households, %**

	Total in Armenia			including					
				Urban settlements			Rural settlements		
	2005	2006	2007	2005	2006	2007	2005	2006	2007
<b>Total monetary income</b>	100	100	100	100	100	100	100	100	100
including									
from hired employment	51.6	47.5	54.9	60.7	56.2	61.9	30.5	28.4	36.6
from self-employment	9.1	14.4	10.3	9.6	15.4	12.1	8	12.2	5.5
from sale of agricultural products and livestock	10.2	9.2	7.3	0.8	0.6	0.8	31.6	28.1	24.1
from property (renting, interests, share)	0.2	0.5	0.2	0.3	0.7	0.2	0	0.1	0.1
from pensions and benefits	14.1	13.9	13.8	12.6	13.2	11.8	17.6	15.4	18.8
from transfers	10.5	9.2	10.6	12	9.2	10.4	7.2	9.2	11.2
other incomes	4.3	5.3	2.9	4	4.7	2.7	5.1	6.6	3.7

It has to be noted that, in relative terms, rural households spend much more on food than urban households and, in this respect, rural households suffer more due to food price increases. The average per capita food expenditures in rural and urban areas is practically the same, while average monthly income levels differ significantly. Thus, in 2006 per capita average monthly income in urban settlements was about AMD 20,000, while in rural areas it was about AMD 16,000, i.e. a 25% difference. In the same year, average monthly per capita food expenditures in urban and rural areas was the almost the same (AMD 13,307 in urban and AMD 13,449 in rural areas).

Moreover, based on the results of discussions with farmer households in rural settlements, price increases did not help farmers very much, and did not have a significant effect on production. Due to their small size, farmers have problems in selling their produce to food processors, for example long queues at the gates of food processing factories imply a significant waste of weight and time; low bargaining power leads to low prices and long delays in payments. Due to these market imperfections farmers could

not get the potential benefits of international price increases, and also of high rates of appreciation of the Armenian national currency.

Price increases were especially painful for the poor. In 2007, the general poverty level was 25.0%, and extreme poverty level comprised 3.8%. Poverty was higher within the rural population than the urban population, and there was even an increase of poverty in rural areas by 2.1 percentage points in 2007. Poverty in urban areas was 24.7%, and rural areas 25.5%. It is important also to note that the increase of monetary income did not affect polarization. In 2007 per capita monetary income of the most well-off group of the population (top 10%) exceeded the monetary income of the less well-off group of the population by 15.1 times (in 2006 – 13.9 times). The income Gini coefficient was 0.371, and consumption Gini coefficient – 0.288. This shows that inequality in Armenia is deeper in terms of distribution of income than consumption.

Agricultural production in Armenia is characterized by small to medium-size units (the vast majority of farmers are subsistence farmers having on average 1.3 ha holdings; in total about 340,000 farmers). Small subsistence or semi-subsistence farmers face many obstacles attributable to smallness:

- (a) Little access to essential productivity-enhancing inputs and technologies;
- (b) Weak and inefficient market links to suppliers, traders and the processing industry,
- (c) Little access to funding and financial services, and high interest rates; and
- (d) Weak machinery services, as well as weak extension programmes.

Over the past 5-6 years, a dynamic and growing, though still small, group of commercial farmers emerged in agriculture marketing chains. They tend to be more specialized than semi-subsistence farms, and often have contractual links with processors and marketing agents. They operate larger sized holdings (usually acquired through long-term leasing) and have more sophisticated operations and techniques of farming and marketing. However, only a small portion of total agricultural production (less than 10%) is produced in commercially registered farms, the rest being derived from the private semi-subsistence sector.

There has been dynamic growth in Armenia's privatized agro-processing industry since 2000. The sector contributes over 35 percent to the manufacturing sector's GDP. Despite investments made to date, agro-processing has yet to attract significant levels of investment. Agro-processing can expand even more rapidly once it overcomes significant constraints such as the lack of physical marketing infrastructure, transport, logistics and poorly organized supply, and trade financing problems.

In relation to the impact of price increase on agricultural production, it must be noted that, based on figures on the sown areas by crop type and on livestock production, there has been no clear relationship between the changing prices and agricultural production, especially on crop production. For most of the crops, including wheat, sown areas have rather been decreasing during the last two years (including 2008). An exception is potatoes: there was a "moderate" 8.2% increase of areas sown to potatoes in 2008.

This can be understood as a "low responsiveness" of Armenian agricultural producers to trends in world markets. Such "low responsiveness" can be attributed to several factors such as small size structure of farming, subsistence and mostly non-commercial nature of farming, low level of internationalization of Armenia's agri-food sector, and poor market linkages and information.

During the last decade there has been a significant increase in productivity of most agricultural crops. This relates particularly to the steadily increasing productivity of vegetables, melons, and potatoes. Compared to the year 2000, the productivity of vegetables increased by more than 70% (from 18.7 tons/ha to 32.4 tons/ha), while the productivity of melons and potatoes increased by more than two times (from 15.6 tons/ha to 35 tons/ha for melons, and from 8.5 tons/ha to 18.3 tons/ha for potatoes). Productivity of wheat has been also increasing, although it has been more volatile and subject to weather conditions. Increasing productivity is, to a certain degree, related to the low base productivity of agricultural production due to low use of fertilizers and low knowledge of effective production techniques by farmers in the 1990s.

During recent years farmers have been active in establishing new orchards and vineyards. This is related, to a large degree, to improved conditions for product marketing locally, and has little to do with international prices, i.e. recent growth in contract farming arrangements between wine, brandy (cognac), juice and tomato paste, and dairy product producers and farmers, where in-kind credit (seeds, fertilizers) is exchanged with primary products. However, it has to be noted also that lack of trust between processors and producers is still an important impediment in establishing and developing more efficient links.

Another reason for establishing new orchards and vineyards is the improvement of irrigation systems in Armenia, where the Government of Armenia takes an active role and participation with the assistance of the international donor community and international financial institutions (e.g. World Bank credits, Millennium Challenge Programmes funded by the US, etc.).

There has been a notable increase of areas under fruits and berries (since 2003). At the same time the productivity of grapes has been steadily increasing, while productivity of fruits has been rather volatile and more dependent on weather conditions. Since 2003, the productivity of grapes increased by more than two times (from 7.1 tons/ha to 15.4 tons/ha). Increased productivity is partly a result of the use of better inputs and techniques of production, and improved irrigation.

Table 8 below represents the dynamics of livestock production. In the third quarter of 2008, compared to the same period of previous year, the volume of production of agricultural products of animal origin with the exception of milk increased. So, in the third quarter of 2008 the volume of egg production increased by 11.4 and made up 135.5 million pieces, 34.9 thousand tons of meat in live weight was sold, which exceeds the same indicator of the corresponding period of 2007 by 2.0%. Conversely, the volume of milk production decreased by 1.5% and made up 234.2 thousand tons.

**Table 8: Number of livestock, 000'**

	Cattle, of which	Cows	Pigs	Sheep and goat	Poultry
<b>2000</b>	497.3	264.9	68.9	540.0	3,975.2
<b>2001</b>	514.2	270.1	97.9	592.1	4,239.0
<b>2002</b>	535.8	280.8	111.0	602.6	4,625.0
<b>2003</b>	565.8	291.0	85.4	628.5	5,023.8
<b>2004</b>	573.3	290.1	89.1	603.3	4,861.7
<b>2005</b>	592.1	297.1	137.5	591.6	...
<b>2006</b>	620.2	307.1	152.8	632.9	
<b>2007</b>	629.1	310.6	86.7	637.1	

### 3.2.3 Possible Policy Responses to Food Price Fluctuations in Armenia

The policy responses of the Armenian Government can be considered from four perspectives:

- Agricultural policy level
- Monetary and fiscal policy level
- Economic competition policy level
- Ad hoc level.

In general, the backbone of Armenia's policies is the Sustainable Development Programme (SDP), which sets out main policy directions and benchmarks for future achievements<sup>35</sup>.

With regard to agriculture, the SDP aims at:

- investing in infrastructure improvements that serve agricultural and rural businesses;
- improving the availability of financial services and credits to farmers and processors; as well as developing appropriate insurance systems against risks in agricultural production based on public-private partnership;
- developing efficient systems and mechanisms for subsidization;
- assuring sufficient and adequate availability of services to farmers and processors like advisory services, and information services;
- improving vertical coordination between processors and farmers;
- investing in the dissemination, transfer and generation of productivity-enhancing technologies at the farm level;
- encouraging the environmentally sustainable use of natural resources by reducing grazing pressure;
- ensuring food safety and promoting food quality standards in a cost-effective and phased fashion; and
- facilitating access to export markets.

Government's specific objectives for the agricultural sector are set out in its Agricultural Sustainable Development Strategy, with an overall objective to promote sustainable agricultural development, to ensure greater food security and to increase

<sup>35</sup> The SDP was adopted by the Government in October 2008. The SDP is, in fact, a version of the Poverty Reduction Strategic Program (PRSP). As prescribed in the SDP, strategic directions of Armenia's economic development policy will focus and will be based on: (a) implementation of targeted regional policies aimed at reduction (alleviation) regional disparities (b) intensification and acceleration of so called "Second Generation Reforms" with particular focus on institutional development and modernization and, specifically, legislative and institutional and legislative approximation with EU standards; (c) improvement of the business environment, particularly, ensuring free economic competition and limitation of monopolies, the main pillar of which will be the creation of equal conditions (opportunities) for economic activity for all; (d) promotion of exports and greater involvement in the world economic system including intensification of integration processes with the European Union (within the framework of European Neighborhood policy), e.g. free trade arrangements with the EU; (e) increasing the productivity and international competitiveness of Armenian businesses, and creation and development of elements and institutions for knowledge based economy.

rural incomes.<sup>36</sup> The Strategy covers a timeframe up to 2015, and defines the main dimensions and expected results of public policy for agriculture development. Key priorities in support of sustainable growth in the sector are to: (i) continue and deepen agrarian reform; (ii) ensure food safety and improve food security; (iii) promote the application of advanced agricultural technologies; (iv) promote pedigree breeding and the improvement of animal health; and (v) promote agricultural processing and the development of associated supply and service infrastructure.

The directions of state support in the agriculture sector are set out in the Strategy and in the Concept on the main Dimensions and Mechanisms for Subsidization in Agriculture<sup>37</sup>. With regard to state support to farmers, the Strategy envisages to shift from provision of tax privileges to subsidization via direct payments to farmers.<sup>38</sup> The Concept proposes to "...subsidize farmers operating under unfavourable conditions for cultivation and owners of newly established grape and fruit yards".

One of major effects of volatile international food prices during recent years is that food security has become an increasingly important consideration in Armenia's policy agenda. Of course, food security has always been an important consideration, but now it has become "critically important". To a certain extent this situation may lead to policies that, in practice, decrease efficiency of agricultural production. The Government aims at achieving self-sufficiency in major food staples (around 14 staples), and within this framework has elaborated a programme (or strategy) on "The Development of Agriculture and Increasing the Level of Self-sufficiency in Major Food Staples". The document is under consideration and is expected to be adopted soon.

In general, policies and tools currently applied by the Government of Armenia in the agricultural sector can be grouped in to the following broad categories:

- General services, plus extension;
- Input support (e.g. provision of seeds and fertilisers and low prices);
- Direct payments, and tax privileges;
- Promotion of commercial farming, and improvement of business environment;
- Promotion of technological development, improvement of productivity.

**General services:** The greatest proportion of budget (and also donor) money allocated to agriculture sector is directed to general services, including: improvement and maintenance of infrastructure, e.g. rehabilitation and maintenance of the irrigation network and drainage schemes and dams, veterinary services, research activities, advisory services, and fight against diseases and pests (for example compulsory vaccination against some diseases), which fit into the "green box" support under the WTO Agreement on Agriculture.

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36 Reviewed version, adopted by the Decree of the Government of Armenia No. 1826-N, 30 November 2006. The initial version of the Strategy was adopted by the Decree of the Government No. 682-N in 2004.

37 Decree of the Government of Armenia No. 2310-N, 27 October 2006, and Decision of the Government of Armenia No. 32, 18 August 2006.

38 This change relates to the implementation of Armenia's WTO obligations, according to which Armenia shall elimination of VAT exemption in the agricultural sector in 2009. The Strategy envisages to increase VAT threshold (up to 8 mln. AMD) and decrease VAT rate (up to 10%), and introduce a Fixed Rate Scheme for VAT taxation. Fixed Rate Scheme, among other things, aims at alleviating documentation and administration burden on farmers. It is widely applied to the EU and OECD countries.

**Input support and credit subsidies:** This category involves provision of inputs free of charge or at low prices. Specifically, farmers benefit from water price subsidies (they are charged only for the variable costs for irrigation water). Another policy tool applied by the Government of Armenia has been the distribution of wheat and other seeds and fertilisers to farmers (free of charge or at lower than market prices), where the Government purchases seeds, fertilisers (and other inputs) and then sells it to farmers at subsidised prices. In 2006, fertilizer support was 10,000 AMD for each ton, in total 21,000 tons of nitrogen fertilizer was provided to farmers, with not more than 500 kg per beneficiary.

Farmers can benefit also from provision of "soft" credits, where a significant portion of the interest is covered by the state. This measure has been applied (tested) in the Shirak region – a region with a high level of poverty. However, the experience has demonstrated that the demand for credits is rather low – for various reasons farmers do not want to get loans from banks. Another important component is emergency assistance provided FAO via several programmes, including distribution of wheat/wheat seeds. These programmes, of course, are useful and help farmers to withstand emergency situations. However, it has to be noted that this type of "one time" assistance cannot have long-term sustainable effects on productivity and development.

**Direct payments and tax privileges:** The Government of Armenia started to apply direct payment in two regions of Armenia (Aragatsotn and Ghegharqunik marzes) in 2007, with allocation of AMD 235 million in total. Farmers were provided with 35 000 AMD per hectare of cultivated land. The target of this measure are farms with less than or equal to 7 ha cultivated land. Objectives of subsidisation are: to achieve better utilisation of agricultural land, and to promote the production of certain important staples. As a consequence of fluctuations in world food prices (and driven by food security considerations) particular attention is paid to promoting the production of wheat via provision of direct payments. In 2008, the amount allocated for direct payments increased significantly. However, given the short period of implementation, it is yet early to judge about the efficiency of this direct payment tool.

Agricultural producers benefit also from being exempt from Value Added Tax on the sales of their own produce in the market. Under Armenia's WTO obligations, this exemption shall be removed starting from 2009.

**Promotion of commercial farming, and improvement of business environment:** Until the mid 2000s, Government's policies were focused mainly of the improvement of physical infrastructure in the agricultural sector. However, understanding that privatisation of land and physical infrastructure are not sufficient for sustained development, and recognising the need for a more sophisticated approach, the Government of Armenia started to pay more and more attention to the improvement of agricultural productivity, and promotion of commercial farming. In this respect, it is important to mention large-scale and multi-dimensional programmes jointly implemented with international financial institutions and donor organizations or foreign countries.

To give some examples, RESCAD<sup>39</sup> project (funded from a World Bank loan), 2005-2010, USD 28.21 million, is a quite large scale project designed to assist farmers and rural entrepreneurs to establish close links with markets, introduce new technologies and business practices, increase their profits and widen employment opportunities in rural areas. A special component of the project aims at developing the seed market and high quality seed production as well as promotion of the use of high quality seeds

39 Rural Enterprise and Small-Scale Commercial Agriculture Development Project.

by farmers. Meanwhile, the programme also addresses certain issues related to rural community development, particularly issues related to the elaboration of development programmes in communities and strengthening their implementation capacities. Within the framework of the project 134 rural communities will be assisted in developing and implementing their local development strategies.

A number of FAO projects, e.g. Support to the Preparation and Implementation of Land Consolidation and Improved Land Management Schemes (2004 - 2006, USD 320, 000) with the objective to contribute to sustainable agriculture and to strengthen rural-regional development in Armenia; Sustainable Development in Mountain Areas (2004-2006, USD 322,000), with the objective to assist the Government of the Republic of Armenia in its efforts to implement sustainable development in its mountain areas, particularly, to formulate a national strategy for sustainable mountain development and a respective investment programme.

IFAD project on "Rural Area Economic Development", 2006-2009, with USD 28.7 million, aims at increasing incomes on a sustainable basis for rural people in mountainous areas in poorer provinces as well as stimulating sustained economic growth for rural people.

**Promotion of technological development, improvement of productivity:** This includes particularly, promotion of the production and use of high quality seeds, as well as introduction of high quality breeds of livestock; promotion of organic farming, etc. Armenia maintains a floating exchange rate regime with no explicit exchange rate target. In its exchange rate policy, the Central Bank of Armenia (CBA) applies a minimum of market-based indirect monetary instruments and rarely intervenes on the currency market to sustain exchange rate stability. The main priority and focus of CBA policy has been control over inflation in the country. Tight monetary and fiscal policies of the CBA enabled Armenia to keep inflation under control and to maintain the inflation level at a quite low level. However, since 2003 Armenia has had a very high level of appreciation of its national currency against USD and Euro. In 2007, appreciation of the Armenian Dram (AMD) was the highest among CIS and EU countries (about 18% appreciation against USD, and 10% - against Euro). The high level of appreciation has been a critical factor affecting Armenia's economy and domestic prices.

In the framework of addressing problems related to price increase/price fluctuations, competition policy has become one of key tools in Armenia. To some extent the Commission for the Protection of Economic Competition (CPEC) and its activities has become an indirect tool for restraining inflationary pressures. The process of price formation in Armenia is significantly affected by the level of competition in the agricultural and food markets. Several so called lucrative markets are dominated by a few "power groups" that dictate prices in the market. These include, particularly, markets for wheat, flour, rice, sugar, and vegetable oil.

Since 2006, the CPEC has conducted a number of investigations of commodity markets and, in some cases, has given warnings or applied sanctions against unfair competition (e.g. against anti-competitive agreements between key dominant players in the market). This relates particularly to markets of wheat, flour, rice, vegetable (sunflower) oil, butter, milk and many others. The CPEC investigations demonstrate that on certain product markets with dominant economic entities, the prices of commodities did not reduce or the reduction was not adequate to the world price trend. In fact the presence of powerful business groups in important sectors of economy and their dominance in product markets are serious obstacles for the formation of a sound and competitive business environment, which in turn imposes inflationary pressure and diminishes consumers' welfare. In the flour and bread market there is, practically, vertical integration with dominant businesses.

To give some examples, in 2007 anti-competitive agreements among dominant players in the butter and vegetable oil market resulted in increasing prices of vegetable oil by an amount that is disproportionately bigger than the increase in the international market. In 2007, a similar situation was recorded in the rice and flour markets. A review of data over time suggests that in some cases, a price increase in international markets has been followed by a significantly bigger increase of the same product in Armenia, and then, after price decreases in international markets, prices in Armenia decreased only after the "intervention" of the CPEC.

In 2008, according to relevant reports of the CPEC, prices of wheat and wheat flour in Armenia were significantly higher than international prices for the same period, due to the existence of limited competition between flour mills and between importing and wholesale entities. Probably, this situation confirms also the existence of anti-competitive agreements across the value chain in the wheat and flour market. Thus, during January-May 2008 the import price for wheat into Armenia was USD 365 per ton, while the world price was USD 320. During January-May 2008, the average import price for wheat flour was USD 586 per ton, and the sales price was USD 1273 per ton. It is interesting to note also that decreasing prices of wheat flour did not lead to lower prices for bread due to dominant positions and anti-competitive arrangements throughout the market chain. In 2008, the CPEC examined also and passed a decision on the case related to the rice market, where two businesses with dominant position were suspected of serious frauds.

In December 2007, in response to increasing world food prices, which led to even more, and in some cases disproportionately high increase of prices in the domestic market, the Government of Armenia created a special Temporary Working Group on Suppressing Price Increases. The Working Group was an inter-agency unit involving representatives from different ministries and agencies (e.g. Ministry of Economy, Tax and Customs Authorities, CBA, National Statistical Service, CPEC). In practice, the main role of the Working Group turned out to be the "passive and non-comprehensive monitoring" of the price fluctuations and making comments on the developments in markets.

As the experience of Armenia, and many other transition countries has demonstrated, simple policy measures such as distribution of seeds or other inputs and food to farmers can not ensure long-term sustainable results. At the current stage of development in Armenia, there is a strong need for *increasing the level of sophistication* of agricultural and rural policies as well as the tools and measures applied in these fields. There is a strong need for *practical shift* to policies that enhance the efficiency/productivity of agricultural production and promote the development of rural areas.

In this sense, there is a need to establish more *efficient linkages* between agricultural and rural policies, as well as between agriculture/rural and other sectors and other topics. There is a need to establish and develop capacities and mechanisms that would allow designing and implementing better targeted and market driven state support to agriculture and rural development. At the same time, we have seen that market imperfections have significant effect on the price formation process, and frequently they work to the detriment of households (as consumers) and small farmers. For the Government it is important to apply policy measures aimed at increasing the competitiveness of the agri-food sector, and the development of efficient market linkages, so that the market chains work effectively and reflect.

It should be borne in mind that, eventually, *the competitiveness* and development of agriculture and rural areas depend largely on the quality and the level of sophistication

of institutions and people who design policies and who conduct farming and marketing.<sup>40</sup> Thus, *capacity building* and accelerated institutional improvement are critical for sustainable agricultural and rural development and for ensuring appropriate level of resilience to price fluctuations. This relates not only to capacity building in public administrations, but also in the private sector. Specifically, important areas in terms of improving human capacities in the public sector include:

- Increasing the knowledge on international experiences of agricultural and *rural development* policy, and measures and mechanisms of effective implementation of policies;
- Improvement of skills of strategic planning and good management; project design and management;
- Strengthening the knowledge on agri-business and agricultural markets, and marketing mechanisms, as well as relevant analytical tools.

And important areas in terms of improving human capacities in the private sector include:

- Increasing the productivity of farming through the use of more efficient techniques and good farming practices,
- Increasing the knowledge on food safety and on quality control throughout the production chain;
- Improving the knowledge and skills on basic commercial farming, management and economic (financial) and marketing;

An extremely important issue is the *promotion of fair competition* in the agricultural and food markets, and also in the economy as a whole. The CPEC needs serious institutional strengthening in order to be able to implement effective measures aimed at protection of fair competition in the market. At the same time the CPEC is yet to get adequate power that would allow this very important institution to have efficient and effective intervention when required.

In some cases businesses, due to "smallness" of penalties, after paying the penalties imposed by the CPEC, continue their anti-competitive activities. There is a need to establish proper mechanisms that would allow the CPEC to issue orders for businesses to eliminate the unfair practice and to take follow-up activities. Regarding *macroeconomic policies*, although keeping inflation low is, in itself, a positive objective which is important for sustaining macroeconomic stability, it has to be noted that it may lead to a situation when the economy will be unable to withstand exchange rate pressures, especially, if there exist unfair competitive practices in the economy (plus, the economy has not yet reached high international competitiveness).

All in all, everything is interrelated, and the economy and society can stand international price fluctuations and/or similar turmoil (e.g. financial crisis) if there is a well orchestrated concerted action and cooperation by all interested parties, and there are efficient inter-linkages and coordination between different strategies and policies and measures undertaken in different sectors and topics.

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40 The Government of Armenia recognized the urgent need for institutional modernization and acceleration of so called Second Generation Reforms, as stated in the newly adopted "Strategy for Sustainable Development" (which is an overarching strategic document for Armenia).

### 3.3 Experience of Georgia<sup>41</sup>

#### 3.3.1 Overview

In the course of January 2000 – June 2008 commodity and food product prices in Georgia were characterized with an upward trend and high volatility. Price rise and fluctuation for the majority of commodities and food products were most acute for the period of January 2006 – June 2008. Observed price patterns were brought about by the combined negative impact of weather induced fluctuations in production, high energy prices, inflation, and developments in international commodity markets on the already lowly productive agricultural sector.

In 2007 in nominal terms eight year peak annual mean average prices were estimated on bread, wheat grain, sunflower oil, poultry, beans, potatoes, and different vegetables, and in 2006 eight year high prices were derived on beef, poultry and some vegetables. The only exception was the high annual average price on rice obtained in 2000. For most of the analyzed commodities the largest fluctuations in annual mean prices were derived in 2007 and 2006. In real terms high annual mean prices in 2007 were estimated on beans, potatoes, and those in 2006 on beef, poultry, and different vegetables. Similar to the pattern in nominal price variability, real prices on most of the analyzed food products were differentiated with high variation in 2006 and 2007 against those of preceding years. Prices also exhibited considerable seasonality. High prices in general were observed during off-season periods corresponding to limited availability of local produce at the market.

Farming in Georgia has low productivity and is of extensive nature. Low production levels are highly vulnerable to unfavorable weather conditions and during production shortfalls the gaps in supplies are filled by imports. Georgia is a net importer of the majority of food products and commodities. For most of the analyzed commodities and food products an increase in import supplies corresponded either to the periods of local supply shortfall or off-season. Imported products successfully competed on price and quality with local equivalents even during normal marketing periods. On the whole, for the period of January 2006 – June 2008 annual volatilities of the value of monthly imports were higher compared to those of volumes implying price fluctuations in import origin countries and transmission to Georgia.

During the analysis period, movements in general price inflation values were characterized with an upward tendency. The most noticeable rise was recorded beginning from 2006. In the course of January 2006-June 2008 commodity specific price inflations during certain months were higher than aggregate inflation values and contributed to underlying inflationary pressures. It is noteworthy that most of the identified periods corresponded to increased supplies of imports.

High levels of prices and volatilities had an impact on household welfare and food security. In 2007 indicators of poverty incidence, depth and severity among rural dwellers reversed a previous contraction trend and surged upward. As a result of price rise and volatility in 2007 contribution of bread and cereal products, potatoes, and meats in total "calorie intake" declined. The extent of vulnerability to poverty among households representing the two poorest quintiles became more severe in 2007 relative to those during the preceding years, and the same groups were characterized with the most significant reduction in consumption expenditures in 2007. Although in 2007 in urban areas the number of household groups vulnerable to poverty declined against that in 2006, the severity of exposure within the group of unemployed became more acute, and this group was distinguished with the most noticeable decline in consumption expenditures.

41 Paper prepared and presented at the Regional Consultation by Rati Shavgulidze, FAO National Consultant.

In rural areas the degree of exposure to poverty became more heightened in 2007 relative to that in 2006, although the number of household groups vulnerable to poverty remained unchanged. Large city dwellers discerned higher vulnerability to food insecurity compared to those of households in small cities and rural areas, but overall "calorie intake" of the households did not decline below the vulnerability threshold. The first two poorest quintiles were vulnerable to food insecurity in 2007, and the degree of exposure was more severe compared to those during preceding years. An additional two groups of urban households with high dependency ratios became vulnerable to food insecurity in 2007. Also, in 2007 the amount of "calorie intake" of one group of households in rural areas with small holdings in possession fell below the vulnerability threshold in contrast to 2006 when none of the household groups in rural areas discerned vulnerability to food insecurity.

The Government of Georgia implemented different ad-hoc support measures to tackle price high levels and volatilities including free allocation of every household with diesel fuel, fertilizers, wheat flour, and different food products. Although these interventions provided much needed relief to the households, this approach did not contribute to the improvement of household sustainability.

### 3.3.2 Impact of Food Price Fluctuations in Georgia

Retail prices of bread along with other factors are influenced by fundamental forces underlying supply and demand of local and imported wheat grain and flour. Georgia is a substantial importer of wheat grain and flour, and local wheat grain primarily is used for blending with milling quality imports.<sup>42</sup> During 2000-2007 wheat grain production declined overall, principally as a result of unfavourable weather conditions. The eight year maximum production level was recorded in 2001 and the minimum in 2006. Although average yield levels recovered to some extent in 2007, they still lagged behind 2004-2005 points. In 2006 and 2007 production levels were lower than the eight year low in 2000. Preliminary estimates of area planted for 2008 harvest indicate a further contraction in production given the extensive nature of wheat farming.

Cattle population increased on an annual basis in the 2000-2004 period, while in 2005 and 2006 the size of population contracted. Some recovery was observed in the beginning of 2007 followed by a significant upward surge at the beginning of 2008. With the exception of 2002-2003 beef production was characterized by a downward trend. The most significant drop was observed in 2006, followed by further contraction in 2007, although at a lower rate. Fluctuation in the size of population was induced by feed availability influenced by unfavorable weather conditions (Table 1; Figures 33-34).

Georgia is a substantial importer of beef. Major customers of imported beef are processing and food service enterprises.<sup>43</sup> For the period 2000-2006 beef import supplies overall were characterized by a gradual increasing pattern with the exception of insignificant contractions in 2003 and 2005. A significant upward surge was observed in 2008, when recorded 6 month total shipments were higher compared to preceding years' total annual supplies. The volume of annual import shipments was more volatile than that of value of imports. Import monthly indexes peaked in February, April, June, August, October, and December, and bottomed during the other months. In 2006 monthly supplies exclusive of April rose compared to those of respective months in

42 Estimated significant correlation coefficient (-0.8) indicated on inverse relation between availability of local grain and supplies of import equivalent.

43 Estimated significant correlation coefficient (-0.6) indicated on inverse relation between availability of local beef and supplies of import equivalents.

2005. In 2007 monthly supplies with the exception of May and September increased against the same periods in 2006. In 2008 import shipments during January-February and June declined relative to respective periods in 2007 (Tables 2-3; Figures 35-37).<sup>44</sup> Beef nominal average monthly prices were distinguished with a rising movement.

In the course of 2004-2006 poverty indicators – incidence, depth, and severity among poor and very poor<sup>45</sup> in rural and urban areas<sup>46</sup> trended downward and the rise in poverty incidence among the urban poor in 2006 relative to that in 2005 was the only exception. In 2007 the trend of statistics describing poverty in rural areas reversed, and surged upward, whereas those among the urban poor continued the movement observed during 2004-2006 (Table 39).

Considerable fluctuation was observed in Urban and Rural household group composition. During 2006-2007 the number of relatively large farm operators declined, while those of relatively small increased. In 2006 the size of urban household group with nobody employed substantially increased relative to preceding year levels. Further increase was observed in 2007, but at a lower rate.

Population diet composition in terms of "calorie intake"<sup>47</sup> during 2002-2007 on average was as follows: bread and cereal products 44%, potato 3%, meat – 3 %, vegetables – 2 %, and vegetable oils and margarine – 8 %. In 2006 relative to those in 2005 the share of bread and cereal products, potato, meats, and vegetable oils and margarine in total "calorie intake" increased, while that of vegetables declined. In 2007 contribution of bread and cereal products, potato, and meats declined, whereas those of vegetables and vegetable oils and margarine increased against the observed levels in 2006 (Table 41). The trend in composition of annual expenditures on food products<sup>48</sup> reflected the pattern to some extent to that in the edge of diet composition and in annual mean real price change in 2006 and 2007 against the preceding year levels (Table 42).

For the period 2002-2007 consumption expenditures<sup>49</sup> among large city residents were higher than the country level averages. During 2002-2004 small town household consumption expenditure levels were below the vulnerability threshold<sup>50</sup>, rose beyond the threshold in 2005, and exceeded country level average in 2007. Consumption expenditures among rural dwellers, although below country level averages, did not fall below the vulnerability threshold. In 2006, consumption expenditures fell among large city residents, while increasing among small town and village dwellers compared to

44 During January 2000-June 2008 beef retail prices explained around 51 % of fluctuation in beef monthly imports, and supply response to a 1 % rise in retail prices was elastic, totaling 1.93 %.

45 Poor – 60 % of 50 % of total population below median expenditures; Very Poor – 40 % of 50 % of total population below median expenditures. Median expenditure is a level of expenditures, which divides the population into two groups of equal size, on the basis of expenditure. By definition, 50 % of the population spent less than this level in the given period and the other 50 % spent more.

46 During 2002-2007, on average, 50 % of population resided in rural areas, and the rest 50 % - in urban areas represented by large cities and small towns.

47 SDS calculates calorie intake by converting food consumption of surveyed households into calories, and uses them as a proxy for the actual calorie intake. This is a median per capita "calorie intake", and SDS assumes that daily "calorie intake" of a household member equals daily per capita "calorie intake" of the household.

48 For comparative analysis purpose following equivalence between the product groups was assumed: bread vs. bread and cereal products, sunflower oil vs. vegetable oils and margarine, different types of vegetables vs. vegetables, beef and poultry vs. meats.

49 SDS considers consumption expenditures to be a better indicator of household welfare than either income or total expenditures. In addition to monetary spending, it includes imputed values of consumed self-produce and reserved agricultural products.

50 SDS defines vulnerability to poverty when consumption expenditures are below country average by more than 10 %.

those in 2005. In 2007, compared to 2006, consumption expenditures trended upward among large city and small town households, whilst declining in rural areas.

With respect to food security, throughout 2002-2007 the population in large cities was characterized with below country average "calorie intake" and in 2006 recorded "calorie intake" fell below the vulnerability threshold.<sup>51</sup> In small towns "calorie intake" was below country averages through 2002-2005 and exceeded the national average in 2006 and 2007. In rural areas "calorie intake" was higher compared to that of the country average. In 2006 relative to that in 2005 "calorie intake" dropped by the greatest extent in large cities, followed by villages and small towns in descending order. In 2007, compared to 2006, "calorie intake" of households in large cities and small towns increased, while that among households in rural areas contracted.

For the period of 2002-2007 vulnerability to food insecurity among rural households representing group *less than 0.5 ha area of land and 0-1.5 cows* was observed during 2003-2005 and in the group *less than 0.5 ha area of land and at least 1.5 cows* through 2003-2005 and in 2007 (Table 57). Reduction in annual "calorie intake" was sharpest in 2007 in the household group *less than 0.5 ha area of land and at least 1.5 cows*.

### 3.3.3 Possible Policy Responses to Food Price Fluctuations in Georgia

During the last fourteen years the agricultural sector has been slowly recovering from a significant decline following independence. Although the pace of recovery has been very slow and uneven, Georgia's diverse climatic conditions and natural resource endowment allow production of a wide variety of agricultural and food products, favouring the competitive development of the sector.

The agricultural sector is dominated by small-scale subsistence farms. It is clear that consolidation of land into larger and more economic holdings should occur, but it seems this will be a slow process largely determined by the extent of growth in other sectors of the economy. In the meantime rural dwellers strive to improve their incomes by other activities but there is relatively little formal employment available in rural areas and future investment in rural areas is likely to be slow and uneven, influenced by the consequences of recent war and international financial crises.

In the course of recent years Georgian Government priority objectives comprised:

- (i) development of agricultural infrastructure by means of livestock breed improvement, upgrade of existing stock of agricultural machinery, and irrigation system rehabilitation;
- (ii) development of viticulture and viniculture through sub-sector specific support and anti-adulteration measures; and
- (iii) enhancement of food security and safety by implementation of retail market monitoring and food sample laboratory analysis, and plant protection and anti-epizootic measures.

<sup>51</sup> SDS defines vulnerability to food insecurity when "calorie intake" is below country average by more than 10 %.

In early 2007, to stimulate production and create new jobs in rural areas, the Government launched two new support programmes "100 New Enterprises" and "Cheap Loan" encouraging investor access to significant areas of land at reduced rates and financial resources below market rates, respectively. In addition to these measures the Government disbursed considerable funds to implement different ad-hoc support measures comprising support to apple, grape and citrus supply chains, and free distribution of diesel fuel, fertilizers, wheat flour, and different food products. Although these interventions have provided much needed relief to households in rural areas, they had only a short-term impact and did not achieve sustainability.

Main constraints that hamper agriculture sector competitiveness in terms of quality and price both on the domestic market and internationally at macro level are – fragmented supply chains, weak public services and insufficient public and private investments, limited information and knowledge of internationally accepted standards, prohibitive long-term credits, and those at operator level are weak management skills, outdated production techniques, and the lack of personnel with adequate technical knowledge.

In the Georgian market there is an increasing demand for local produce and a call for transparency in food chains. The lack of adequate demand stimulating infrastructure, quality control at production sites and recognized standards of quality and safety have resulted in the supply of variable quality local produce, domestic underproduction and imported commodity dominance in local markets, significant outflows of foreign exchange, and limited access to developed markets.

For policy makers the most feasible approach should be stimulation of demand through (i) supply chain development around collection and grading centres, and (ii) development of traditional farm based products and crafts processing enterprises.

Such consolidation centres can be considered as value adding enterprises, where consistent grades and standards are implemented, HACCP is introduced, and where compliance with these standards is enforced. Consolidation centres in addition to being a market outlet for farm produce and stimulating demand, would also serve as a "knowledge" centre for growers. Consolidation Centres can provide growers with extension services, and farming inputs so that they can apply good agricultural and integrated crop management practices. Also such an approach can create a good perspective for small grower involvement and sustainability.

There is a very strong tradition of traditional enterprises in Georgia based around the food sector, and these should be supported in modernization of their premises and equipment, and improvement of production practices through implementation of local quality assurance schemes.

An integral component of this intervention should be building and development of training and educational institutions that would allow building of competencies at the various levels of the supply chain and artisan processors.

Other measures worthy of attention by policy makers include improvements in the collection of statistics, and development of the market information system. More specifically – (i) statistics - there is a need to improve available information on production (specific vegetable crops, etc.), prices (differentiated by product quality, origin, markets, etc.), transportation (international and domestic, etc.), trade (international and domestic), household welfare and food security; and (ii) market information system – such a system should be developed to provide on a regular basis to all those interested in developments in the markets (product availability, prices, origin, point of sales, etc.) and the format of information dissemination should be accessible to all interested, for example through special radio programmes.

### 3.4 Experience of Moldova<sup>52</sup>

#### 3.4.1 Overview

The world is experiencing a dramatic change in food prices. Rising food prices were provoking social unrest across the developing world and resulting in a set of short-term policy responses from Governments in both exporting and importing countries. In the short run those food buyers in the cities and in the rural areas that spend a large share of their income for food products, are likely to be pushed deeper into poverty and food insecurity. In some countries urgent action was required to maintain and in some case enhance emergency food safety nets.

At the same time it seems that the situation creates favourable conditions for the stimulation of agricultural production in many developing countries. In the longer term, however, many experts consider that external shocks like natural calamities, climate change and periodical financial crises are expected to affect negatively food production. Coordinated actions and adequate policy measures are needed for the stabilization of food and agricultural commodity markets. Failure to act expeditiously may slow down economic growth in both food exporting and importing countries.

Policy and investment responses by Governments and development partners need to be country context specific and should reflect short term needs, as well as long term development projections. Moldova is a relatively small country, mainly agricultural, with a high-density population. The economy of the Republic of Moldova has registered some growth tendencies beginning with 2000. The most important contribution to economic growth between 2000 and 2008 belongs to the services sector. However, among the main factors that have stimulated such economic growth were increase in imports and remittances from labor migrants.

Favorable climate and high quality soils historically have determined Moldova's agricultural specialization, particularly in the production of high value crops like fruits and vegetables. The status of the agricultural sector has changed dramatically over the last two decades, principally related to the disruption of production and distribution networks. Land areas used for high value crops have been reduced by half. The shift in production has also been accompanied by significant reductions in land productivity. This situation is directly related to lack of investments, capital and credit availability to the agricultural sector; factors that have resulted in farmers applying low yield technologies and drastically reducing their use of agricultural inputs such as fertilizer and other agricultural chemicals.

At the same time the Republic of Moldova is particularly prone to natural hazards due to a specific combination of geography, inappropriate land use practices, and climate change. Moreover, as a result of the high poverty level in the rural areas, the vulnerability of agriculture in the Republic of Moldova, as well as inadequate risk mitigation measures, the impact of natural hazards on the poor population in the rural areas is particularly severe.

The Government response to agricultural risks in Moldova has been to develop strategic policies with the aim of integrating and synchronizing the efforts of combating the negative effects of natural and external phenomena. With this purpose, a draft National Strategy of Natural Hazards Mitigation has been developed with the financial support of the World Bank. It has been developed through a participatory process involving experts from Academic Institutions, line Ministries, business representatives and NGOs.

52 Paper prepared and presented at the Regional Consultation by Victor Moroz, FAO National Consultant.

### 3.4.2 Impact of Food Price Fluctuations in Moldova

International prices of basic food commodities, in both absolute and relative terms, have been increasing since 2001, and particularly steeply in 2007 and 2008. The short term drivers have been: poor harvests resulting from extreme weather events in major cereal exporting countries, combined with a background of depleted grain stocks, which magnified the increases in their prices; rising input and transport costs (especially energy and increasingly also fertilizers); demand for crops for bio-fuels, exacerbated by support provided to the related sectors; and to some extent rising demand, especially for feedstuffs from emerging economies.

Additional factors contributing to the soaring food prices have been the over-reactive trade policies put in place by some countries. In some cases, the immediate response of Governments in restrictive export policies for food products resulted in an increased flow of financial resources into agricultural markets. In 2008 the world price spike was reduced by the robust supply response of cereals.

In the longer term, though, other drivers may become more important, like climate change, oil depletion, water scarcity, speed of technology development and adoption, as well as changes in commodity and trade policies related to agricultural and bio-fuels sectors. In Moldova, the development of food prices has been driven mostly by the growing consumer demand supported by soaring remittances from abroad. As a result, the food trade network was radically transformed during recent years.

Food distribution companies in Moldova are importers and dealers, supermarket import operations, or food processors themselves. The rapid growth of various domestic and international supermarket chains in Moldova, such as Green Hills and Number One, has moved much middle-class consumption off the streets and open markets into modern stores. The large milk, meat, poultry, and fish processors (mostly using imported raw materials) and the flour millers use a blend of owned shops and a sales/delivery work force to distribute their products. Smaller companies normally hire outside sales personnel who have their own transportation and pay them a commission for selling and distributing the products.

Moldova's urban markets are dominated by the supermarket chains in Chisinau, which has the largest concentration of consumers and much of the country's wealth. Open markets are important for fresh fruits and vegetables, locally slaughtered meat, small- and medium-scale processors, and dry goods sellers. The majority of the population buys their fresh produce from the open market, but increasingly they enter supermarkets and shops looking for quality name-brand meat, dairy, and processed goods. Prices for fish, meat, milk, and even some fruits and vegetables are about the same in supermarkets and in the open market. Supermarkets offer more reliable net weights, better and more sanitary storage and handling conditions for preserving product quality, and access to a broader range of product qualities than do the open markets.

Although a very large traditional, subsistence marketplace still exists in Moldova. The retail trend in urban markets is toward further consolidation under domestically formed or foreign-owned chains. Larger domestic producers and processors must improve their output of quality foods through good food safety standards or risk displacement by foreign suppliers. The trend toward retail consolidation offers strong incentives for upgrades in agro-processing and trade and supply chain integration.

Trade and business associations are weak when it comes to developing or pressing for universal codes of practice. Moldova suffers from an almost total lack of viable,

long-term and mutually beneficial marketing channels linking producers, processors, traders and consumers. Most marketing of both fresh and processed commodities is carried out on an ad-hoc basis. Because domestic traders and processors generally do not operate with advance supply contracts for their goods and suffer from a chronic shortage of capital, the farmers who supply those enterprises with raw material are also typically not offered long-term contracts, production credit or technical assistance by the enterprises.

Evolution of prices in Moldova followed the evolution patterns of international prices on food, agricultural commodities and inputs in relative terms. Partially it could be explained by the growing share of imported food products at Moldovan wholesale and retail markets. Moldova, like other low income, small countries faces an additional challenge, while struggling to reorient and rebuild the collapsed primary production and manufacturing sectors to meet the demands of rapidly evolving domestic and foreign markets.

Policy inadequacies and weak institutions undermine these efforts. Policy instruments that have been used in recent years include administrative controls and regulations to restrict exports of main agricultural commodities, to maintain low prices to "social" bread, and to ensure cheap low materials for processing industry. In the short term this reduced the price spike for food in Moldova.

On the other hand, prices paid to Moldovan farmers (farm -gate prices) during recent years were far below international prices. From the medium and long term perspective this is expanding the rural – urban differential with a very significant urban bias, resulting in out-migration of the rural workforce without an associated increase in rural productivity. Suppression of producer prices ultimately increases rural household food insecurity.

The Economic Growth and Poverty Reduction Strategy Paper, approved in 2004, and other strategic policy documents of the Moldovan Government were aimed at improving living standards, enhancing social protection of the poorest groups, developing the social security system, creating new jobs, ensuring accessibility of quality health services, and at creating progressive human capital. To ensure the efficiency of poverty reduction policies, there is a need for accurate and comprehensive information about its characteristics such as, composition and socio-economic situation of the poor. To this effect poverty monitoring is carried out, which identifies the poorest part of the population by applying a special criterion – the poverty rate. The share of population, whose wellbeing level is below this rate, is defined as poor.

**Table 1: Absolute and extreme poverty rates, by residence averages**

Poverty rate	Years					
	2001	2002	2003	2004	2005	2006
<b>Absolute</b>						
Total	54,6	40,4	29	26,5	29,1	30,2
Cities	30,0	16,5	12,8	6,9	5,9	20,6
Towns	73,1	46,8	42,4	34,9	34,2	30,1
Villages	58,2	45,1	31,1	31,2	36	34,1
<b>Extreme</b>						
Total	38	26,2	15	14,7	16,1	4,5
Cities	17,2	8,5	5,3	2,9	2,3	3,5
Towns	56,5	33,9	23,4	17,5	17,8	5
Villages	40,3	30,2	16,2	18	20,5	4,7

During the first decade of transition the incidence of poverty in the republic of Moldova grew at the highest pace in Eastern Europe. In 2001 – 2002 the growing economy and rising real incomes reversed the process. But since late 2003, although GDP has continued to grow vigorously, there has been little progress in reducing poverty.

Table 1 above shows the absolute and extreme poverty rates by area of residence, calculated at the total national level. Apart from the fact that the overall poverty rate is higher in rural than in urban areas, the availability of food products cultivated in a household, which can somehow compensate the lack of monetary income in many rural households, slightly reduces the poverty risk in rural areas as compared with towns (except cities). However, while overall poverty rates have further decreased in 2004, the poverty rate in the rural areas stabilized and then began to rise.

The poverty profile in Moldova matches in many respects the poverty profile in other transition countries. The families with many children, employees in the agricultural sector, old people and children are most influenced by poverty. To allow for better-quality poverty diagnostics the database needed to be improved. This implied primarily using information obtained from the population census, developing a more representative sample for the Household Budget Survey (HBS), improving the survey questionnaire, and enhancing the quality of records and questionnaires. The improved methodology for the Household Budget Survey has been implemented in 2006. However, implementing the new HBS makes it difficult to compare inequality measure over these two periods. Table 2 below shows the share of household budgets spent on food by quintiles.

**Table 2: Consumption expenditures of households by quintiles groups (agricultural activity)**

Foodstuff products and non-alcoholic beverages in percent					
Year	Quintiles groups (20% each) by level of consumption expenditures				
	I	II	III	IV	V
2002	77,6	73,8	69,4	62,4	45,7
2003	76,5	71,8	68,7	62,2	42,2
2004	77,1	72,5	67,8	61,4	42,5
2005	76,7	71,7	67,3	59,3	39,9
2006	57,4	53,2	50	46,8	36

The data for the last two years demonstrate quite different proportions of household budgets spent on food in urban and rural areas in comparison with the previous period. This implies that soaring food prices in Moldova did not increase the share of household budgets spent for food in 2006-2007. The effect of the price spike in 2008 can not be assessed in quantitative terms yet, but explicitly negative public reaction, demonstrations, and other public actions organized by trade unions lead to the conclusion that price changes were very sensitive for urban population.

This adverse situation was smoothed by the robust supply of agricultural products in the middle of 2008, administrative food price regulations and growing imports. The rural population was affected mostly by decreasing revenues for farming due to the dramatic fall of basic agricultural commodities prices following high yields of main crops in 2008.

### 3.4.3 Possible Policy Responses to Food Price Fluctuations in Moldova

Diminishing a country's vulnerability to risk factors and an integrated risk control can be promoted by applying a number of policies and carrying out certain actions: legislative, economic, environmental, social, etc. A necessary step is the inclusion into all strategic documents on the development of Moldova's social and economic system of prevention measures, adaptation and mitigation of natural risks in accordance to the "sustainable development" principles, including prevention, precaution and environmental efficiency. Based on the proposed policy actions during the participatory process, the contributions of the academic institutions, central and local public authorities a set of policy actions was drafted in the form of a National Strategy of Natural Hazards Mitigation (NSNHM).

**The aim** of the Strategy is to reduce the vulnerability of the Republic of Moldova towards natural risks and minimization of human casualties, economic and financial losses, eventually caused by natural calamities and external factors.

**The objectives** of the NSNHM are the following:

- increase the level of adaptation of the natural resources, ecosystems and agriculture to climate change;
- maintain low levels of greenhouse gas emissions;
- consolidate the institutions involved in management and alleviation of adverse phenomena;
- raise the level of awareness in the society concerning the problems related to natural risks and climate change.

In order to achieve its strategic vision the NSNHM concentrates on the following main directions:

**Development of the infrastructure for disaster mitigation.** Moldova will invest in the protection of vital large scale infrastructure to resist against major natural risks, while taking into account the rising vulnerability implied by climate change. The reduction of disasters can include flood control, and rehabilitation of irrigation systems for reducing impact of droughts and floods. At the same time afforestation should be carried out as well as construction of small-scale infrastructure, including water basins aimed at stopping the degradation process of the hydrographic network, diminishing soil erosion and landslides, prevention of floods and reduction the impact of droughts.

**Development and implementation of insurance schemes against natural disasters.** These can be used for the distribution of risk and protection of a limited number of companies and households against disastrous and catastrophic prejudices. These instruments are meant to reduce the financial vulnerability of the Government, business circles and the population by economic mechanisms of risk transfer.

**Implementation of adaptation measures for anticipation and mitigation of natural disasters risks.** Adaptation measures include modifications in farming practices, diversification of agricultural crops, and improvement of techniques, varieties of crops and animal breeds that would be adapted to anticipated risks, such as droughts, frost and hail. A revision of construction standards and of land use planning is also necessary.

**Strengthening of the institutional and legal framework.** This is aimed at the coordination of activities between national and international organizations in the field of alleviation of natural risks. The NSNHM seeks to develop the local capacities of monitoring natural risks to early warning of the population, including advance forecast of floods, responding to fires in forests and farming areas, civil protection, communication systems and emergency informational management, etc.

In order to coordinate the activities on natural risks mitigation it is proposed to create a Centre for Competence and Assistance in Natural Risk Mitigation, with the status of public institution, based on a Government Decision. The main functions of the Centre will be: analysis, evaluation, and forecasting impacts of natural hazards, coordination of working groups' activity, technology and competency transfer, facilitation of the Strategy implementation and monitoring, information dissemination and public awareness campaign. The Centre expects to be financed from state and international programmes, external and local donors.

The center will promote an inter-disciplinary process of knowledge collection and transfer in the field of alleviating risks of natural hazards and climate change by involvement of the central and local public administration, academic institutions, private companies and NGOs sector, and by publication of obtained results in a manner accessible for all potential service users.

The competency centre will offer to local experts professional development opportunities, such as courses, seminars, practical training programmes, summer schools, etc., while educating the young generation of scientists and decision makers. The NSNHM acknowledges that sustainable activities of natural risk mitigation have to be based on the scientific research, on good practices and local and international experience. At the same time, the NSNHM will support new and existent researches that represent the knowledge base for decision making in the area of risk mitigation.

## 4. LAND REFORM, TRANSITION, AND RURAL DEVELOPMENT

DAVID SEDIK AND ZVI LERMAN<sup>53</sup>

### Overview

The rural sector in the countries of Central and Eastern Europe (CEE) and the Commonwealth of Independent States (CIS) has undergone a shift from predominantly collective to more individualized agriculture. During the 1990-2000 period considerably more land transferred ownership in these countries than in other successful land reforms, including those in Mexico, Brazil, Japan, Korea, and Taiwan (see Table 1 below).

**Table 1: Land Reforms**

Country or Region	Period	Duration (years)	Land transferred (million ha)
Mexico	1917-92	75	100
Brazil	1964-94	30	11
Japan	1945-52	7	2
Korea	1945-50	5	0.5
Taiwan (Rep. of China)	1949-53	4	0.2
<b>CEE<sup>54</sup></b>	<b>1990-2000</b>	<b>10</b>	<b>33</b>
<b>CIS<sup>55</sup></b>	<b>1990-2000</b>	<b>10</b>	<b>116</b>

Source: Deininger, 2003

The basis of this shift from collective to individual agriculture lay in two interrelated aspects of agricultural policy reform: land reform, which concerns land use rights and land ownership; and farm reform, which deals with restructuring farms into individual land holdings.

### Land Reform in Eastern Europe and the CIS

Although nearly all CEE and CIS countries decided to privatize land, strategies for land privatization differed between these two groups (see Table 2 following). In the CEE countries where legal records of current or previous owners still existed, restitution of actual plots of land was the primary privatization strategy. In these countries most agricultural land formally remained under private ownership throughout the socialist period. People joined cooperative farms during collectivization, but their land was not appropriated by the state or ceded to the cooperative. People lost the

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<sup>54</sup> The countries of Central and Eastern Europe that are now part of the European Union, as well as Albania. Does not include the Western Balkan countries of former Yugoslavia.

<sup>55</sup> The countries of the Commonwealth of Independent States.

right to utilize their land, but they did not lose title to the land. Over the years, as rural residents moved to the city or died, some land became the property of the cooperative<sup>56</sup>.

**Table 2: Differences in land reform policies in CEE and CIS countries**

Country	Extent of land privatisation	Land privatisation strategy	Land allocation strategy <sup>57</sup>	Extent of post-privatisation land transferability
<b>CEE</b>				
Romania	All	Restitution+distribution	Plots	Buy/sell, lease
Hungary	All	Restitution+distribution	Plots	Buy/sell, lease
Bulgaria	All	Restitution	Plots	Buy/sell, lease
Estonia	All	Restitution	Plots	Buy/sell, lease
Latvia	All	Restitution	Plots	Buy/sell, lease
Lithuania	All	Restitution	Plots	Buy/sell, lease
Czech Rep.	All	Restitution	Plots	Buy/sell, lease
Slovak Rep.	All	Restitution	Plots	Buy/sell, lease
Poland	All	Sell state land	Plots	Buy/sell, lease
<b>CIS<sup>58</sup></b>				
Armenia	All	Distribution	Plots	Buy/sell, lease
Georgia	All	Distribution	Plots	Buy/sell, lease
Azerbaijan	All	Distribution	Plots	Buy/sell, lease
Moldova	All	Distribution	Shares to plots	Buy/sell, lease
Ukraine	All	Distribution	Shares to plots	Buy/sell, lease
Kyrgyzstan	All	Distribution	Shares to plots	Buy/sell, lease
Kazakhstan	All	Distribution	Shares to plots	Buy/sell, lease
Russia	All	Distribution	Shares	Buy/sell, lease
Tajikistan	None	None	Shares to plots	Use rights
Turkmenistan	All	None. Virgin land to farmers	Leasehold	None
Uzbekistan	None	None	Leasehold	None
Belarus	Household plots only	None	None	None

Source: Lerman, Csaki, Feder, 2004.

56 "Restitution" refers both to the restoration of land use rights to the individuals (or their descendents) still registered as land owners, and to returning land title that had been lost to cooperatives during the socialist period, when individuals moved to the city or died.

57 In the land allocation strategy column, "shares to plots" indicates the conversion of previously distributed paper land shares into physical plots or land titles to physical plots.

58 In August 2008 Georgia gave notice that it was withdrawing from the CIS. According to the rules of the organization. The decision will come into effect in August 2009.

In actual practice, it was not always possible to return the exact plot of land to an individual or to his/her descendants. Often other plots were offered to former landowners in compensation, inter alia to avoid the fragmentation of large, integrated farm complexes into uneconomical smallholdings. For this reason, restitution in CEE did not necessarily lead to land fragmentation; it may have facilitated the transition from socialist cooperatives to corporate farms (Mathijs and Swinnen, 1998). In countries such as Estonia, Lithuania, Hungary, the Slovak and Czech Republics, and Romania and Bulgaria, many large farms were downsized, but maintained as corporations.

There were exceptions to this general scheme. As in the CIS countries, Albania underwent privatization of state-owned land followed by the egalitarian distribution of land in former cooperatives to rural residents. State farms in Albania were eventually auctioned off to large investors. Poland is also a separate case, since collectivized agriculture was essentially abandoned after the 1956 uprising. The land that had been devoted to state farms was eventually auctioned off. The pattern in the Yugoslav successor states was much like Poland: most of the land had remained in individual family farms during the socialist period.

In the CIS, where the longer history of collectivized agriculture made restitution virtually impossible, land privatization in the early 1990s had a quite different meaning. Since agricultural land had belonged to the Soviet state, the first step was to legalize private ownership of agricultural land. Collective farms were then transformed into corporate farms (joint stock companies, partnerships, etc.) and land shares within these farms were distributed to workers. Thus, collectives became corporate farms that operated on collectively owned and farmed land.

While this example (which originated in Russia) was followed in most of the Soviet successor states, two exceptions can be noted. The first was in Central Asia, where land formally remained state property long after its redistribution began. Uzbekistan and Turkmenistan, where agricultural land still remains state property, retained state farms and distributed state leaseholds rather than land shares. Kazakhstan, Kyrgyzstan, and Tajikistan followed the Russian example and distributed land shares to collective farm workers, though they left agricultural land under state ownership. Kyrgyzstan (in 1998) and Kazakhstan (in 2003) subsequently legalized private ownership of land. The second exception was the South Caucasus, where actual plots of land were distributed early on, from 1992 in Armenia and then in Georgia, and from 1996 in Azerbaijan. In this respect, these countries were closer to the CEE than to the CIS model.

Since the distribution of land shares to corporate farm workers often did not change farm management, the new 'private' corporate farms operated much like their socialist predecessors (with their associated problems). For this reason Kyrgyzstan, Tajikistan, Moldova and Ukraine converted land shares into titles to land parcels or to actual land parcels at the end of the 1990s<sup>59</sup>. In Kazakhstan, the June 2003 Land Code annulled the permanent rights associated with land shares and forced share-holders either to acquire a land plot from the state (by outright purchase or by leasing) or to invest the land share in the equity capital of a corporate farm, thus effectively losing ownership rights.

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59 This process is far from complete. On Ukraine see Lerman, Sedik, Pugachov and Goncharuk, 2007; on Tajikistan see Lerman and Sedik, 2008.

## Farm reform and agricultural recovery

A second component of agricultural policy reform was farm reform, in which the individualization of landholdings was critical. In the CEE countries, where private land ownership did not cease after World War II, the main issue was the restitution of land use and ownership rights to individuals. This could then be followed by decisions of individual landowners regarding the use of their land plots, leading either to family farming or the continuation of corporate farming. In the CIS countries, progress with farm restructuring had to be preceded by land privatization decisions. Clear sub-regional differences are apparent in the Soviet successor states, in terms of the depth (percent of sown land in individual farms) and timing (watershed dates) of the individualization of landholdings. These differences have resulted in substantially different levels of recovery from the transition recession (see Table 3 below).

**Table 3: Sub-regional differences in farm policies and agricultural recovery in CIS countries**

	Central Asia	Caucasus	Russia, Western CIS
<b>Farm Policies</b>			
Dominant farm organisational form	<b>Individual, corporate</b>	<b>Individual</b>	<b>Individual and corporate</b>
Land sown in individual farms (% , latest year <sup>60</sup> )	68	97	34
Share of gross agricultural product produced on individual farms (% , latest year)	78	97	62
Watershed date for individualisation	2000	1993	None
<b>Agricultural output recovery<sup>61</sup></b>			
Starting year	1998	1994	2000
Production relative to 1991 level (% , latest year)	105	114	76

Source: Computed from official statistics

Whereas the countries in the South Caucasus individualized land early and decisively, the Central Asian countries began individualization quite a bit later. Some have achieved remarkable progress in the past few years—even though in Uzbekistan, Turkmenistan, and Tajikistan, agricultural land continues to be owned by the state. The laggards in the date and degree of individualization, and in the recovery in agricultural production, have been Russia, Belarus, Ukraine, and Moldova. In fact, Russia and Belarus have not yet appreciably individualized landholdings.

## Agricultural reform and poverty reduction

It is difficult to establish a rigorous causal relationship between land and farm reform and the dramatic reductions in poverty that have been observed in the region since 2000, because there are no comparable rural poverty assessments spanning the period of land reform that examine landholdings over time. Studies of the connections between

<sup>60</sup> The latest year for which data are available.

<sup>61</sup> Gross agricultural output.

land and farm reform and rural welfare rely on cross-section evidence on landholdings and farm incomes.

Still, it is clear that land and farm reforms have helped reduce rural poverty in two respects. First, they have increased household assets via one-off transfers of land, livestock, and farm machinery from corporate farms to households. Farm survey data from many countries show a positive correlation between household landholdings and incomes<sup>62</sup>. Second, these one-off transfers from collective and state farms to individual farms increased crop yields (Dudwick, Fock, and Sedik, 2007). Higher yields increase farm production and improve family welfare both directly through higher consumption and indirectly through additional cash income from sales of surplus products. Less ambitious land and farm reforms tend to limit these positive effects.

But if robust land and farm reforms have helped reduce rural poverty through agricultural growth, these measures alone have been unable to offset the negative impact on rural living standards of employment losses in food processing and declines in rural services. Land and farm reforms may lay a basis for agricultural growth, but they are only two of many reforms needed to produce sustainable declines in rural poverty. The liberalization of agricultural markets (particularly in Central Asia), privatization of agricultural services, establishment of institutional structures for market agriculture, and the development of rural finance must all play a role.

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<sup>62</sup> See Lerman, et al., 2007; Lerman and Cimpoies, 2007; Lerman, 2008a; and Lerman and Sedik, forthcoming, 2009.

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## 5. RURAL BUSINESSES IN CROATIA AND EU ACCESSION: LAGGING OR LEADING<sup>63</sup>

RICARDO PINTO AND ALEXANDER VON BRÜHL-POHL<sup>64</sup>

### Overview

The assumption that rural economies lag behind urban ones, as far as the provision of business infrastructure is concerned, underlies many development debates in East and Southeast Europe<sup>65</sup>, as well as in other transition economies. A casual analysis of the provision of business development services such as business centres, incubators, and information centres suggests that the availability of these services is greater in urban than in rural areas—suggesting prima facie needs to improve the business environment in rural areas.

The Business Information Needs Survey is the largest recent survey of businesses carried out in Croatia (see [www.bizimpact.hr](http://www.bizimpact.hr)). This telephone survey, consisting of 65 questions, was conducted during February-April 2008, and focused specifically on the challenges associated with accession to the European Union. The target population comprised both small and medium-sized enterprises (SMEs) with under 250 employees, and larger crafts (more than five employees). Some 2,000 respondents were sampled, out of a population of 57,600 SMEs and 2,700 larger crafts. The survey focused on companies in six different regions, the gender of the owner/director, and the area of economic activity, as well as the urban/rural dimension (in Croatia, settlements with 2,000 inhabitants or less are defined as rural, while those with more than 2,000 inhabitants are urban). Whilst recognizing that this is an imperfect definition of what comprises a 'rural' enterprise (the EU has no common definition of rural areas and most member states have developed their own definitions, often based on population density), it does provide a basis for analyzing the urban/rural dichotomy.

### Rural versus urban business environments

A number of important differences about rural versus urban business environments are suggested by the data.

**Benefits of EU accession:** Croatia's anticipated EU accession is likely to offer new business opportunities to all firms. While no significant differences were reported between rural and urban enterprises concerning perceived advantages and disadvantages of EU accession, urban enterprises are slightly more optimistic about accession (51 percent of urban enterprises regard it positively compared with 44 percent of rural enterprises). However, the survey data suggest significant differences in perceptions

63 This paper is based on a survey carried out by the EC-funded project (EuropeAid/121473/C/SV/HR) "Improving Information to the Croatian Business Community" or BIZimpact Project ([www.bizimpact.hr](http://www.bizimpact.hr)) being implemented by Pohl Consulting & Associates. The use of the survey information for the preparation of this paper is acknowledged.

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65 UNDP, 2004, Business Development Services: How to Guide, p.14.

of preparation for accession, in terms of compliance with the laws, regulations, and standards associated with the *acquis communautaire*. Urban enterprises (32 percent) feel that they are fully prepared compared to rural companies (22 percent). This is likely, in due course, to translate into competitive advantages for those enterprises that have prepared for accession.

**Use of business infrastructure:** Perhaps surprisingly, the survey data suggest that use of business development services (BDS)<sup>66</sup> by urban and rural firms is rather infrequent. Whilst acknowledging the important roles of BDS providers in assisting start-ups, business planning, marketing, and training, 80-90 percent of survey respondents stated that they do not use services provided by such institutions as regional development agencies, local government economic development offices, business centres, or private business consultants, in order to keep themselves abreast of important legal and regulatory developments. Urban and rural companies differed only with regard to their use of county economic development departments (there are 21 counties in Croatia). Whereas 23 percent of the rural companies surveyed tended to use them at least sometimes, fewer (18 percent) of urban counties reported ever using these institutions.

Unlike in many Southeast European countries, there is significant BDS provision in Croatia. However, the survey data show that neither rural nor urban enterprises use it intensively in terms of preparing for EU accession. Instead, the survey data indicate that the main sources of such information for businesses are not the BDS providers but rather accountants and lawyers. In reality, therefore, Croatian businesses get their support from outside the BDS system. Not only did 59 percent of the survey respondents use accountants and 24 percent use lawyers (often or sometimes) as sources of such information; they also assessed the usefulness of these services as quite high (the mean score for the usefulness of accountants was 4 on a zero to five scale). This situation did not vary between urban and rural enterprises.

**Legal and regulatory preparation:** In seven of the eight fields of legal harmonization investigated<sup>67</sup>, neither rural nor urban enterprises are undertaking significant steps to prepare for the adoption of the *acquis communautaire* (see Table 1 following). This is rather surprising, given that Croatia's EU accession is expected in the short to medium term. Reasons for this apparent lack of urgency include a lack of time and knowledge of where to obtain information about these changes, and inadequate human resources. Instead, companies stated that they largely acquire information 'incidentally' through the media.

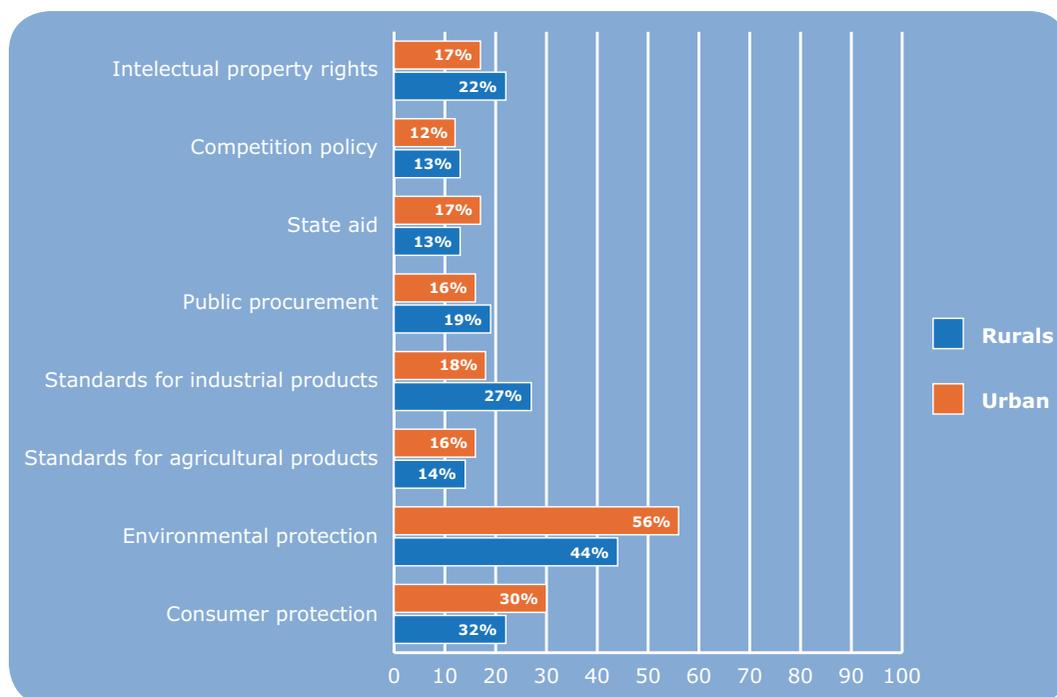
Somewhat surprisingly, rural respondents report better preparation in the area of environmental protection than urban enterprises (56 percent versus 44 percent, respectively). However, rural companies are far less likely to participate in public procurement in Croatia (only 27 percent have taken part in public tenders, compared with 40 percent of urban enterprises). This is a concern, since public procurement in Croatia amounts to some €6 billion annually (15 percent of GDP in 2007), representing significant business opportunities<sup>68</sup>. The sheer complexity of the relevant public procurement legislation, combined with a lack of transparency in the tendering procedures, contribute to this outcome.

66 BDS here refers to business centres, business incubators, technology parks, enterprise zones and regional development agencies (RDAs). In addition to some 300 enterprise zones, Croatia has 60 business centres, incubators, and RDAs. There are 21 counties, each with its own chamber of commerce and chamber of crafts. All counties, and most large municipalities, also have an economic development department.

67 These are consumer protection, environmental protection, standards for agricultural products, standards for industrial products, public procurement, state aid, competition policy, and intellectual property rights.

68 Sanader, I. (2008) Press Conference of the Prime Minister of Croatia on Public Procurement, 05.06.2008.

**Table 1: Companies that have taken preparatory steps for legal harmonisation, by thematic area**



**Use of Information and Communication Technology (ICT):** The survey data do not reveal significant rural/urban differences in the use of TV, newspapers, and magazines to keep informed about business matters. However, significant differences in internet use are apparent. Rural companies are less likely than urban companies to use the internet to obtain business information (9 percent compared with 16 percent); and whereas 64 percent of urban enterprises report frequent internet use, only 46 percent of rural companies report such use. Since Croatia enjoys near-universal internet access, this difference reflects varying business practices rather than insufficient internet service provision in rural areas. Likewise, whereas 70 percent of urban enterprises report frequent email usage, 41 percent of rural enterprises indicate no or infrequent email use. Whereas 56 percent of urban companies report use of corporate websites, this share dropped to 44 percent for rural companies, suggesting that rural enterprises are making limited use of e-business and e-commerce potential. Inadequate ICT and e-business skills would therefore seem to be notable weaknesses of Croatia’s rural business environment.

## Conclusions and policy recommendations

Does access to business infrastructure lag in rural areas? There is little evidence to support the view that rural enterprises in Croatia are systematically and consistently disadvantaged compared with urban businesses in this respect. However, there are some important gaps that should be addressed in order to improve the business environment in rural areas. Key recommendations include the following:

**Use of ICT:** Rural enterprises are systematically under-utilizing the potential for e-business and e-commerce. This suggests a need to raise ICT awareness and skills for small businesses in order to improve market access and competitiveness.

**Legal and regulatory preparedness:** Legal and regulatory requirements pertaining to such topics as standards for agricultural products, environmental protection, and public procurement are extremely important for rural enterprises. Further awareness-raising is needed in these areas if rural companies are to make full use of the business opportunities offered therein.

**Business development services:** Neither rural nor urban enterprises in Croatia appear to use these services intensively; nor do they find them particularly useful—in sharp contrast to services provided by accountants or lawyers. Some of the current support for BDS providers should be shifted to efforts to make better use of accountants and lawyers in rural areas.

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## 6. RURAL DEVELOPMENT, FOOD PRICES, AND REGIONAL DISPARITIES

SUSANNE MILCHER AND KITTI KISS<sup>69</sup>

### Overview

Poorer countries of Eastern Europe and Central Asia are typically those with the highest share of rural population<sup>70</sup>, as large shares of the population live in rural areas that do not make a large contribution to GDP. Rural-urban disparities are not only related to low rural incomes; they also reflect exclusion from resources, employment opportunities, and social services in rural areas. Recent increases in food prices affect rural and urban populations differently. This article examines possible medium-term effects of food price increases on rural-urban disparities within the region.

### Rural-urban disparities and barriers to rural development

In almost all countries of the region, poverty rates are higher in rural than in urban areas (see Table 1 following)<sup>71</sup>. Moreover, despite at least a decade of strong economic growth, a significant part of the population in both urban and rural areas is close to the poverty line (particularly in the CIS countries). Thus, even a small reduction in real incomes could push many vulnerable households into poverty.

Poverty reduction has been generally more successful in urban than in rural areas, as urban households have better access to employment, education and health services, and support from urban-based donors<sup>72</sup>. The urban poor have benefited more from the region's economic upswing, because they are better integrated into formal labour markets. Slower progress in rural poverty reduction reflects the slower development of agriculture, and poor access to non-farm employment opportunities and social services, and to physical and social infrastructure, markets, land, and credit. The lower responsiveness to growth in rural areas has therefore resulted in persistent inequalities or so-called poverty traps, reflecting important institutional barriers to rural development<sup>73</sup>.

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70 In the region's three countries classified as low-income countries by the World Bank (Kyrgyzstan, Tajikistan, and Uzbekistan), 63-75 percent of the population lives in rural areas. In all other countries, the share of rural population is under 55 percent (World Health Organization, WHOSIS database: <http://www.who.int/whosis/data/>, August 2008).

71 The poverty data presented here are from the World Bank's regional data base, which is the sole source of comparable poverty data in the region. Under the World Bank's methodology, poverty is defined as living with less than \$PPP 2.15/day, and those living with less than \$PPP 4.30/day are regarded as vulnerable. For more on this research, see World Bank (2005), *Growth, Poverty and Inequality – Eastern Europe and the Former Soviet Union*.

72 Ibid.

73 Ibid.

**Table 1: Poverty, vulnerability and spatial differences**

Country	Percentage of population living in poverty (below \$PPP 2.15/day)				Percentage of vulnerable population (living below \$PPP 4.30/day)			
	Capital	Other urban	All urban	Rural	Capital	Other urban	All urban	Rural
<b>Albania</b>	16	19	18	27	63	67	66	75
<b>Armenia</b>	35	57	46	57	86	94	90	96
<b>Azerbaijan</b>	4	8	6	3	66	74	69	70
<b>Belarus</b>	1	3	2	2	14	26	23	18
<b>Bosnia and Herzegovina</b>	2	6	4	4	21	39	38	33
<b>Bulgaria</b>	0	5	6	6	20	34	31	36
<b>Estonia</b>	4	5	5	5	21	39	38	33
<b>Georgia</b>	32	50	41	62	75	87	81	89
<b>Hungary</b>	0	0	0	0	8	11	10	16
<b>Kazakhstan</b>	2	14	13	31	29	57	55	79
<b>Kyrgyzstan</b>	42	68	57	77	89	96	93	98
<b>Latvia</b>	1	3	2	5	7	19	12	27
<b>Lithuania</b>	1	2	1	8	11	21	15	42
<b>Macedonia, FYR</b>	4	5	5	3	20	22	22	36
<b>Moldova</b>	27	48	37	47	75	88	81	87
<b>Poland</b>	2	2	2	3	20	22	22	36
<b>Romania</b>	4	7	6	20	41	47	45	72
<b>Russian Fedn.</b>	5	7	7	14	36	37	37	53
<b>Serbia and Montenegro</b>	6	4	4	9	36	37	35	51
<b>Tajikstan</b>	54	73	67	76	89	96	93	97
<b>Ukraine</b>	0	1	1	2	11	20	20	28
<b>Uzbekistan</b>	4	43	34	55	39	83	73	93

Source: World Bank staff estimates using the ECA Households Survey Archives 2002-2004 (World Bank, 2005).

Rural poverty also reflects the fact that agriculture remains a central source of living in rural areas<sup>74</sup>. Non-farm employment opportunities are often limited and reliance on subsistence farming continues. Households whose incomes depend largely or solely on agricultural wages are therefore particularly vulnerable to poverty. Agricultural employment in some of the low-income CIS countries has expanded with the economic recovery and often serves as an informal safety net, as workers in rural areas are more easily able to grow their own food than are urban workers. On the other hand, low levels of agricultural mechanization continue to depress labour productivity and incomes in rural areas<sup>75</sup>. And while further mechanization and commercialization may raise incomes

74 European Bank for Reconstruction and Development (EBRD) (2002), Transition Report 2002 - Agriculture and rural transition. Economic transition in Central and Eastern Europe and the CIS, p.90.

75 World Bank (2008), Unleashing Prosperity – Productivity Growth in Eastern Europe and the Former Soviet Union, pp. 73-78.

for those agricultural workers who remain employed, it is also likely to result in labour shedding, reduced incomes for unemployed rural workers, and increased inequality in the countryside<sup>76</sup>.

A durable reduction in rural poverty and inequalities therefore requires the expansion of non-farm employment opportunities in rural areas. However, prospects for growth in both farm and non-farm employment are limited by shortcomings in rural investment climates, particularly in the form of inferior communication networks, poor physical infrastructure, underdeveloped financial services, and weak market linkages<sup>77</sup>. According to the World Bank, while more than 90 percent of urban households in the region have access to water<sup>78</sup>, in Azerbaijan, Moldova, Romania, Russia, and Ukraine less than the half of rural households are connected to the water system, and may experience unreliable or poor quality water service deliveries<sup>79</sup>. Issues of rural access to water and electricity are even more serious in Central Asia.

### Food price increases and rural-urban disparities

Although urban communities have benefited disproportionately from the region's economic upswing, recent rapid food price increases are hitting urban households (and especially the urban poor) harder than the rural population. Unlike the rural poor, virtually all poor urban households are net food consumers. And while in the new EU member states food spending is limited to 20–25 percent of the household consumption basket, this share rises to 70 percent in Azerbaijan, Armenia, Albania, and Tajikistan<sup>80</sup>. In these countries, rising food prices could push poor urban households into deep crisis. By contrast, rural households can cope better with a downturn, as they benefit from the safety net offered by subsistence farming opportunities. Furthermore, at least some poor rural households are net food producers, and as such may benefit from higher food prices.

In principle, higher food/agricultural prices should stimulate agricultural growth, increasing demand for farm labour and rural wages, and reducing rural poverty. This seems particularly likely in the middle-income CIS countries, where large-scale, relatively capital-intensive farming based on hired labour remains important, and where markets for farm output and inputs are relatively competitive<sup>81</sup>. By contrast, in the low-income CIS countries where many farm households sell their crops (e.g., cotton) to the state at prices well below world market levels while having to purchase inputs from state monopolies, smaller shares of these 'terms-of-trade' gains trickle down to poor rural households. Furthermore, sustained gains over the long term also depend on farm households' abilities to finance agricultural commercialization (access to credit is likely to be facilitated by the higher value of land), in order to increase productivity levels. However, even in the region's wealthier countries (including the new EU member states), structural barriers to rural development (e.g. inadequate access to land, credit,

76 Davis, Junior (2006). 'Rural non-farm livelihoods in transition countries: emerging issues and policies'. eJade electronic Journal of Agricultural and Development Economics, vol. 3, no. 2, pp. 180-224.

77 EBRD (2002), op.cit, p.92.

78 The ratio is similar for other urban areas (the only exception is Moldova).

79 On average, in 2003 Tajik households were provided with water less than six hours per day, while the supply was even lower in rural areas. See: World Bank (2005), op.cit., p.3.

80 United States Department of Agriculture. (<http://www.ers.usda.gov/Data/InternationalFoodDemand/StandardReports/Foodbudgetshares.xls>, July 2008).

81 World Bank (2008), Innovation, Inclusion and Integration – From Transition to Convergence in Eastern Europe and the Former Soviet Union, pp. 47-51.

and markets; inadequate physical infrastructure) may keep these gains from being widely shared among rural communities. Better rural infrastructure may likewise be needed to ensure that the rents accruing from the higher prices are reinvested in rural areas, to boost agricultural productivity and real incomes<sup>82</sup>. More developed transport, irrigation, and financial infrastructure in rural areas would increase yields and farm incomes generally, help small farmers get their produce to market, and increase the demand for (and wages of) agricultural labour.

Among rural households, the negative consequences of food price inflation seem likely to be most severe for unskilled landless agricultural workers, who are most at risk of being made redundant by the commercialization and productivity growth resulting from higher food prices. Poorly targeted social safety nets and inadequate alternative employment opportunities exacerbate these problems<sup>83</sup>. And while the ability of subsistence farming for households to feed themselves may not be directly affected by food price inflation, higher non-food prices will further reduce their real incomes, and make the challenge of escaping from poverty more difficult.

## Conclusion

Rising food prices could transform urban-rural disparities in the region by pushing vulnerable urban households into poverty and by giving rural food producers new chances to escape it. Whether overall poverty levels fall depends on whether rural economies can leverage short-term price windfalls into sustained increases in farm outputs and incomes, creating new demands for, and employment opportunities in, rural services and industrial activities. Significant public and private investment and expanded rural development programming, in order to improve physical and commercial infrastructure in rural areas, should therefore remain priorities. Otherwise, the food price windfall seems unlikely to benefit the rural poor who need it the most.

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82 Food and Agriculture Organization of the UN (2008), *Growing Demand on Agriculture and Rising Prices of Commodities. An Opportunity for Smallholders in Low-Income, Agricultural-based Countries?* p. 13.

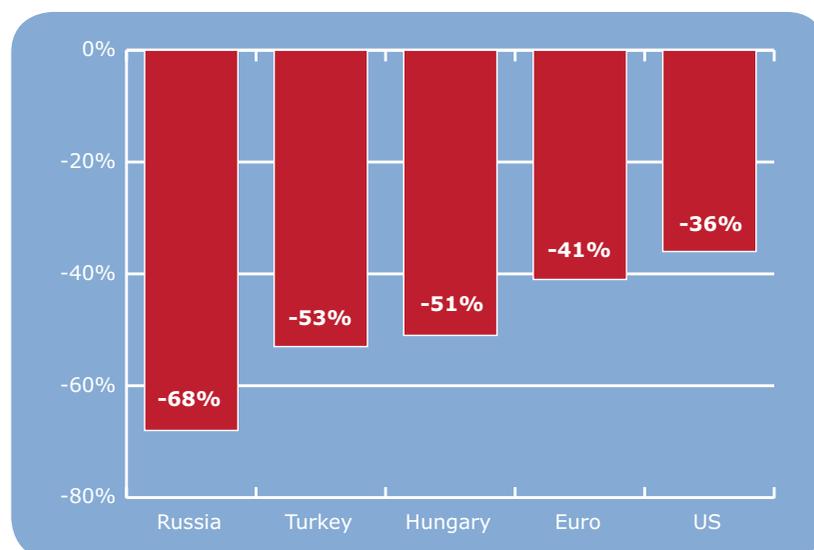
83 World Bank (2008), *op cit* p.48.

## 7. OVERALL SUMMARY AND CONCLUSIONS

The world has experienced an extreme food prices fluctuation in the past three years which led to the global food crisis and jeopardised achievement of the Millennium Development Goals. World poverty and hunger have started to grow again. In response on this challenge several international initiatives were launched. In December 2007 FAO launched the Initiative on Soaring Food Prices (ISFP), in June 2008 FAO conducted as policy dialogue the High-Level Conference on World Food Security: the Challenges of Climate Change and Bioenergy, and the UN High-Level Task Force on Food Security brought together the UN system to respond to the crisis in a coherent and coordinated way. The G8 Leaders Statement on Global Food Security (Hokkaido July 8, 2008) recognized the need for a wide range of mid- to long-term measures to tackle the issue of food security and poverty. EBRD/FAO organized a special High-level Conference "Fighting Food Inflation through Sustainable Investment" addressing the problems of the crisis specifically in the Eastern Europe and Central Asian region (London, March 2008).

In addition to the food crisis a world financial crisis emerged, on a large scale and with little prior warning; this significantly hampers global measures to increase investment in the agrifood sector (Figure 1)

**Figure 1: Stock markets: Selected countries, Year-to-date change in stock market indices, through mid-October**



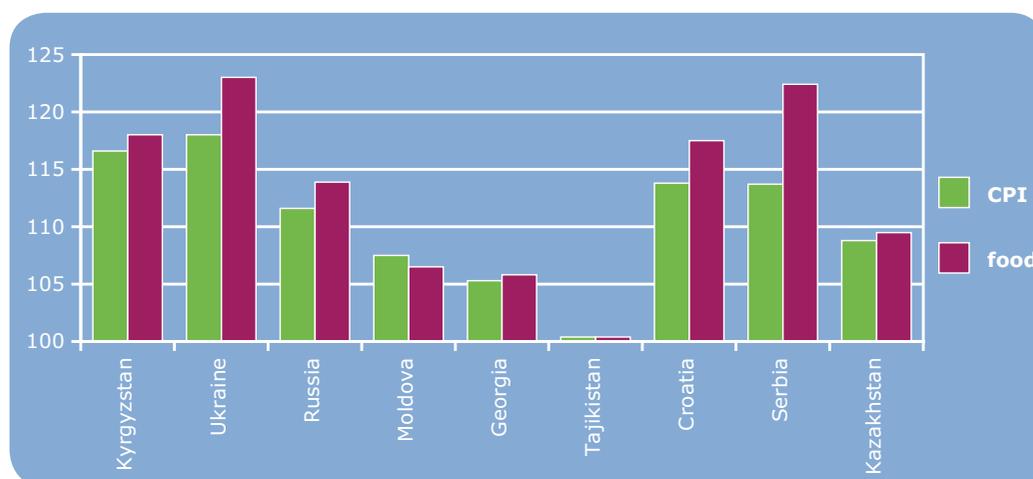
Source: JPMorgan

The countries of Eastern Europe and Central Asia were directly affected by this complex combination of food and financial crises. The region combines a very diverse set of countries united by their post-communist and transitional status. However, the path and speed of the transitional reforms, the extremely different preconditions of these reforms, and not least the presence of armed conflicts on the territories of some countries make the region extremely heterogeneous. Therefore the impact of crisis of the countries of the region is notably different. There are countries such as Kyrgyzstan and Tajikistan where almost 100% of rural population

live for \$ 4.30PPP and in contrast Russia, Kazakhstan, Azerbaijan, and Turkmenistan have accumulated in recent years relatively big national budget reserves from the surge in mineral oil and gas prices.

There is also Croatia preparing to access the EU as a full member. Russia and Ukraine were able to utilise the food prices inflation and significantly increase agricultural production in 2008, but in many other countries of the region, due to market imperfections, high food prices were not transmitted to the smallholders which are the most important national agricultural producers. More over, in the poorest countries of the region a significant proportion of rural population is a net food consumer; hence the food crisis did not even potentially create a window of opportunity.

**Figure 2: Consumer price and food price indexes in selected countries in the region, October 2008 to December 2007\*, %**

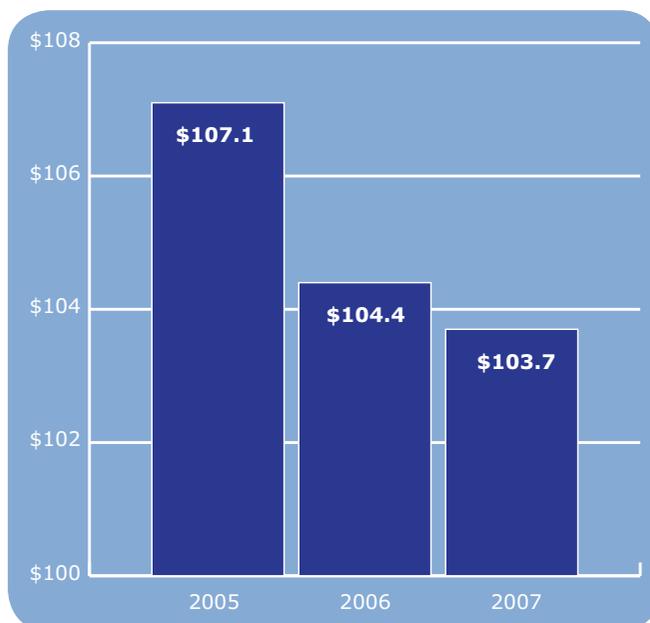


*\* for Croatia – September, Serbia - August  
Source: Corresponding national statistic agencies*

The countries of the region applied a range of policy tools to react to the food prices surge. In 2007 Kazakhstan, Russia and Ukraine stopped their grain exports. This dramatically affected neighbouring countries which are heavily dependant on imports from the CIS. Almost all governments across the region tend to control the food retail market, to force the major retailers and processors to hold in prices; some of them requested international assistance.

Many of these measures demonstrated their inefficiency. Reaction to the financial crisis is even more diverse: middle income countries of the region in previous years had made significant public and private investments in long and medium term investment projects. Many are now jeopardised as a result of the current financial crisis. In low income countries governmental investment in agriculture is not significant but Official Development Assistance, which is traditionally much greater, is seriously reduced in the current financial crisis situation (Figure 3) and this will unavoidably adversely affect both agriculture and rural development in these countries of the region.

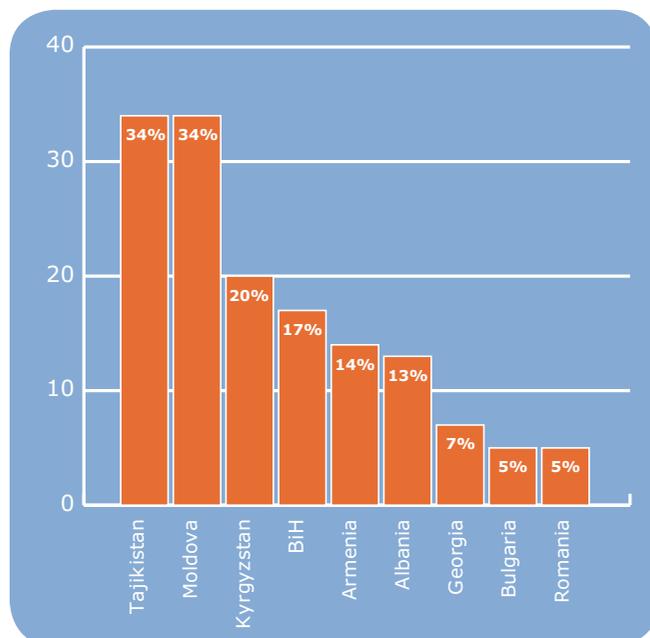
**Figure 3: Annual OECD-DAC ODA flows, in billions.**



Source: OECD-DAC

In addition, the financial crisis in the middle-income countries of the region, such as Russia and Kazakhstan, which are the sources for job for many migrants from the low-income countries in the region (Figure 1), will result also in a diminution in remittances that will adversely affect the income situation these countries as well.

**Figure 1: Remittances as % of GDP.**



Source: World Bank

All of these issues were discussed in detail at the regional consultation **on Food Price Fluctuations, Policies and Rural Development in Europe and Central Asia**. There was general agreement among participants that volatility is greatest in regions where there is the greatest lack of self-sufficiency. In general, small countries cannot avoid price volatility, and food security is related more to levels of poverty rather than price volatility.

In Tajikistan, a Commission on Control of Food Prices has been established, although in this country the key to production is principally related to ensuring water supply. It was noted in open discussion that for all new World Trade Organisation members, food imports increased significantly and immediately. Ukraine, for example, joined WTO in June 2008 and imports of meats increased significantly immediately afterwards; although in consequence of soaring commodity prices exports of wheat and oil seeds increased also. Across the region, the long term run down of stocks has impacted significantly on recent price volatility. This has created a completely different supply-demand balance situation compared to even 10 years ago.

The experiences gained, often painfully, through the latest phase of food price fluctuations has confirmed that increases in food prices have a direct impact on inflation in many countries. However, general macroeconomic instruments are totally inappropriate tools to use in response. Rather, highly specific policies are necessary to deal with the causes and consequences of high food prices. What is required is a balanced approach, so that effective and coherent actions are taken in the shortest possible time to help the most vulnerable people in the short term, whilst at the same time working to stabilize food prices by increasing agricultural production in the long term. In consequence, effective policy responses must include both short and long term elements. Even more, these elements should be developed in co-ordination and not in isolation. Otherwise, in a worst case scenario, the different elements of the overall policy can end in a situation where the effect of one has an adverse impact on another.

As a short term response to soaring prices of food, developing country governments can effectively expand social protection programmes, for example, safety net programmes such as food or income transfers and nutrition programmes focusing on the newly born and infants. The focus of such programmes should be on the poorest sector of society, both urban and rural. Many of the poorest people in developing countries are not well connected to markets and thus will feel relatively fewer effects from rising food prices. However, the much higher international prices result in serious hardship for millions of poor urban consumers and poor rural residents who are net food buyers.

Some countries, including India and South Africa, already have social protection programmes in place that can be expanded in times of crisis to meet new and emerging needs. However, such programmes take significant time to be introduced and developed, and so countries that do not have such programmes in place are at a significant disadvantage to create them rapidly enough to make a difference in response to rapidly soaring food prices. This is a lesson that must be learned from the most recent price surge. Countries without existing social protection programmes almost inevitably introduce market distorting policies; principally export bans and import subsidies. To increase future capacity for developing countries to use social protection programmes as policy instruments, it is essential that any food related development aid, including social protection, child nutrition programmes, and food aid, involves significant beneficiary ownership. As part of the programme, institutional structures should always be created so that they can be further developed in times of crisis.

It is essential also that the lessons learned from the recent food price surge with respect to the short medium and long term effects of use of land for bio energy resources are applied. A fundamental review is justified of the role and place of bio fuel subsidy programmes. There is already in existence a world market for bio fuel products. In consequence, subsidies on bio fuel crops act as an implicit tax on staple foods, a tax that affects most of all the poorest of the poor. In developing appropriate policies with respect to the assurance of alternative energy sources, it is essential that governments of developed countries take into account that their farmers are fully capable to make decisions about what to cultivate based on world market prices for various commodities.

This does not necessarily imply a total removal of bio fuel subsidies as a policy option. Existing policies in both the United States and in Europe have undoubtedly had impact on world food markets and hence contributed to the recent volatility of prices. However, there is still a need to consider all options for the long term supply of energy. A sound medium term policy option may well be for developed countries to open their markets to bio fuel exporters like Brazil, whilst at the same time developing their own capacity for alternative energy sources without using market distorting mechanisms.

The experience from the recent price surge also supports the case for further reductions in agricultural trade barriers. In recent years significant progress has been made in reducing agricultural subsidies and other trade-distorting policies in developed countries. However, many remain, and usually these affect most of all low income countries. This policy option is highly charged politically, particularly in many Western countries. However, the last three years has confirmed without question that in developing countries farmers can and do increase production in response to higher prices. Further, given this experience, there is little justification for input supply programmes except in extreme situations.

Another lesson that must be learned is that to ensure both long term agricultural growth and world food security, developing country governments should increase their medium and long term investments in agricultural research and extension, rural infrastructure, and market access for small farmers. Rural investments have been significantly reduced, in real terms, in recent decades, and it is essential to reverse this trend. Farmers in many developing countries are operating in an environment of inadequate infrastructure like roads, electricity, and communications; poor soils; lack of storage and processing capacity; and little or no access to agricultural technologies that could increase their profits and improve their livelihoods.

This is of relevance also to the donor community; given the scale of investment needed, external assistance should also be provided to expand development support to agriculture, rural services, and science and technology. In this respect, it may well be appropriate to conduct an analysis of the long term impact and sustainability of previous assistances provided in this area. Countries significantly affected by the recent surge in prices are asking now for support in areas such as developing market information and price reporting systems, introduction of small scale irrigation systems, also assistance to improve small scale producers' access to market outlets. These are both areas that were the subject of significant external donor support in Europe and Central Asia in the last decade. This raises the question of why was that support not effective? Lessons can and should be learned; to ensure that any future support provided can have a high possibility of sustainable and positive impact for the beneficiaries of the assistance.

## ANNEX 1: CONSULTATION PARTICIPANTS

First Name	Family Name	Country	Profession/ Position	Organisation
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ISBN 978-92-5-106376-7



I1059E/1/10.09/1