INCREASING FOOD PRICES AND FOOD SECURITY: DIAGNOSTIC ISSUES AND POLICY OPTIONS[1]

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Executive Summary

i. In spite of some moderation in recent months, increased food prices appear to be here to stay and continue to be a matter of grave concern. Especially worrisome are high cereal prices, as cereals make up a major and necessary part of the diet of poor households, and account for a principal part of their monthly expenditure. Increases in their price limit the ability of the poor to diversify their food intake and improve their nutrition. Consequently, prices at sustained high levels threaten to undo much of the gains in poverty reduction and nutrition made over the past years, with one estimate from the World Bank indicating that 105 million people have been pushed into poverty as a result. Matters are aggravated by high fuel prices that directly impact household well being through the share of fuel in the consumption basket, besides adding to the price of food through increased transportation and production costs.

ii. These effects are felt disproportionately by women and other disadvantaged members of society. Women are often charged with obtaining and preparing food for their families, and it is also often the case that women and girls eat last or eat different food than men and boys. When food is scarce, this increases the likelihood of their going hungry or having a less nutritious diet. Certain countries, too, are more vulnerable than others – those that import both food and oil face the problem of having to meet a suddenly escalated import bill. Conflict and post-conflict countries are among the most vulnerable due to their low levels of production, negligible stockpiles, limited ability for purchases in the global market, restricted access to food for parts of the population, and state capacities that are already stretched in dealing with rehabilitation and reconstruction needs. Even at the household level, little capability may remain for dealing with this additional shock - households may have been deprived of their assets, or may have already tapped into them.

iii. On the other hand, the price rises contribute to increasing incomes for producers, and can be significant incentives for increasing production. Such production increases can come from both large agri-businesses and, crucially, from smaller farmers provided the benefits of higher prices are passed through to them, and they have access to affordable inputs. Policies that expand the access of small farmers (and especially, women, in the many countries where they contribute significantly to agricultural production) to inputs and knowledge, and to competitive markets, could lead to a 'pro-poor' benefit in many areas. Additional gains in poverty reduction may also be expected if these developments improve opportunities for employment and wages.

iv. Policy responses within countries, therefore, need to strike a balance between addressing the impact of these price increases on producers and consumers. They need to address the underlying structural reasons, along with taking care of their immediate fall-out. *Across countries*, too, self interests may not always coincide, so a policy response in one country may have an adverse impact on another. At the same time there are several responses that can be pursued most efficiently through collaboration across countries. This paper is intended to serve as a thinking piece that will stimulate policy discussion, and provide guidance to UNDP staff in country offices as they engage with national governments to address their key concerns.

Causes and Implications

v. A broad consensus has emerged on the causes and accentuating factors that have contributed to the current situation, although the relative importance of each varies according to crop and country, and is difficult to estimate reliably. Among these are the use of some cereals as biofuel feed-stock and an increasing demand for food driven by population growth across the world, and sizeable reductions in poverty levels in large emerging economies, particularly in Asia. On the supply side, the sustained decrease in the stock levels of cereals since the mid-1990s (estimated to be, on average, at the rate of 3.4 percent annually since 1995) coupled with sharp decreases in total production in 2005 and 2006 in the major exporting countries, have helped trigger the

price increases. Matters were exacerbated by the surge in oil prices which affected food prices through raising transportation costs, and increasing the cost of fertilizers, whose manufacture is energy intensive. While conditions are expected to moderate in the coming year, the crisis has highlighted underlying structural imbalances that need to be addressed through a concerted effort by individual countries and their partners.

vi. The desire for energy security and efforts to address climate change by reducing greenhouse gas emissions, have led to policy emphasis on alternative fuel sources, including biofuels. The increasing production of biofuels such as ethanol (derived from starchy crops – including cereals - and sugar crops) and biodiesel (derived from oilseeds) contributes directly to the rise in the prices of the source crops. Biofuel production costs have fallen over time, but they still cannot compete effectively with gasoline and diesel and public policy supports continue to be necessary. The OECD estimates that about 8 percent of the global coarse grain production and 9 percent of the global vegetable oil production went towards biofuel in 2007 and, under the current set of support policies, this is estimated to grow to 12 percent and 14 percent respectively in the coming decade.

vii. As household incomes at the lower end of the income distribution rise, their demand for cereals goes up more than that due to similar income increases in the upper parts of the distribution. This happens both directly, for immediate consumption, and indirectly, through their demand for meat for which cereals are an important feed stock. The increasing consumption of lentils and vegetables also exerts upward pressure on prices through the potential diversion of land from cereal production to meet the demands for these products. Consequently, with an estimated 278 million people in developing countries alone moving out of extreme poverty between 1990 and 2004, the attendant stress on cereal (and other food) prices can be considerable. Projections estimate these demand increases to be sustained over the next few decades.

viii. The steady decline in global cereal stocks is evidence that production has not kept up with these demand increases over the last few years. An important factor here is weather induced supply shocks – although presumably transitory, these may be expected to become more frequent, and more correlated across countries, as a result of climate change. Another factor is the decades-long public underinvestment in agriculture that has made it harder to accelerate production. Other shocks on the supply side have come from policies in response to the price rises themselves, such as export restrictions, which can have significant impacts in markets dominated by only a handful of supplier countries. Apart from the collective impact of these factors, it has also been argued that financial speculation in securities and derivatives linked to commodities has helped push prices higher.

Vulnerabilities and responses: Experiences

ix. Country level vulnerabilities and responses have both macro and micro aspects that are illustrated through the varying experiences of the UNDP regional bureaux, some of which are captured in this paper. For example, one set of countries are those where there is a high dependence on food imports and limited potential for increasing domestic production. Several countries within the Arab States region are in this category where the production constraint arises from limited availability of both water and land. For the oil exporting countries, the net effects of the increased revenue from higher oil prices are expected to outweigh the rise in the food import bill. However, in other countries such as Jordan that import both food and oil, there is an increasing trade deficit and mounting fiscal pressure on general subsidies on food and fuel. The government is devising and putting into place a targeted, social safety net program. There is also an attempt to increase the production of wheat and barley through a commitment to purchase the products at the international price, designating land for grain cultivation and launching a special support program for this purpose.

x. The experience of countries in Sub-Saharan Africa (SSA) highlights three interesting points. The first is that the prices of non-globally traded cereals such as millet and sorghum have also risen sharply, in line with globally traded ones. In Niger, for example, the price of millet has doubled over the previous year, although millet is not a globally traded cereal. The second is that with a large proportion of the population below the poverty line, the political consequences of the price rise have been especially severe. Low national stockpiles, and the tightness of global markets have been compounded by local weather disturbances and the significant size of the already vulnerable population in conflict states, or afflicted by HIV/AIDS, malaria and other diseases. The third is that although cereal yields have been stagnant in the continent at about 1 MT/ha since the early 1960s (compared to between 2.5 – 4.5 MT/ha in 2005 for other parts of the world), recent experience shows that subsidies aimed at reducing the costs of inputs for small farmers can have large positive effects on production. An example here is the case of Malawi, which is estimated to have significantly increased its maize production due to a combination of good weather, a targeted subsidy on fertilizer and improved maize seeds and a procurement price floor. The challenge at present is the continuance of the subsidy program that places significant strains on the country's fiscal situation, especially in the context of increasing fertilizer prices.

xi. Many countries in the Central Asia and Europe region are net exporters of food and agricultural products and have benefited from significant growth in agricultural and food production, exports, and consumption. Some of the countries here have been/are being affected by drought (e.g., Albania, Moldova, Turkey), but the problem is not one of general, long term, agricultural production shortfalls. Ukraine is one of the major wheat exporters, but up until recently, its response to the rising prices was to introduce export restrictions in an attempt to protect its consumers. However, in May 2008 the Government of Ukraine increased the grain export quotas. Consumer interests have been addressed through other policy measures – there were large increases in nominal wages and transfers in early 2008, local administrations have been empowered to set maximum profit margins for bakeries, and there is the possibility that an existing targeted social safety net could be scaled-up to help poor households cope with the rising food prices.

xii. The Asia-Pacific region is characterized by the presence of large producer/consumer nations such as China and India, along with smaller nations such as Cambodia and the island states. In India, significant increases in the food price index have been driven by price rises in cereals and pulses. Poverty remains a significant challenge, and an additional indicator of vulnerability is the large number of people employed at low wages in the unorganized sector, who are particularly at risk from negative shocks. India has responded to this situation through a combination of trade related measures, safety nets such as employment guarantee programs and use of its grain stocks both to maintain prices, and for targeted distribution to the poor.

xiii. Population and income growth in the countries of Latin American and Caribbean has contributed to price hikes for food in both local and global markets. The growing prosperity of the region can be gauged from the fact that the proportion of cereals in the dietary intake fell from 52 percent in 1995 to 43 percent in 2003, while the proportion of animal protein went up from 14 percent to 19 percent over the same period. Mexico is a net importer of food, but a net exporter of oil. The increase in food prices provoked riots in January 2007, in response to which the Government negotiated with tortilla producers to keep the price of this staple down. The government is also using an existing conditional cash transfer program to funnel an additional cash transfer meant exclusively for food purchases. The Government has also removed quotas and tariffs for food and animal feed imports, eliminated import taxes on fertilizers, and extended credit to farmers while instituting price caps on milk and maintaining subsidies on gas prices. The net impact of all these measures on the budget is expected to be negligible, given that Mexico is a net exporter of oil, and has benefited from the rise in its price.

Vulnerabilities and responses: Assessments and Options

xiv. The experiences and responses of countries highlighted above are representative of the measures adopted across the globe, and reflect country constraints and opportunities. Individual country assessments must be designed to illuminate the relevant components of vulnerability, and to provide enough information to allow for differentiated responses across the various elements of its population. At the macro level, a primary concern is with securing the population's aggregate requirement of food at an acceptable consumer price level. Crucial to the macro assessment therefore would be the food balance, reflecting the country's degree of self sufficiency at the aggregate level, the amount imported and its impact on the current account. Aggregate level responses include strategies to manage the rising costs of food imports, especially at a time when fuel import bills may also be high; and measures to boost domestic food production, often through public investments. For many countries, there may be a trade-off between responses that mitigate the effects of high prices on consumers, and those that maintain the incentive effects of these prices on producers.

xv. At the micro level, policy interventions take regional and household level differences into account. Crucial to the micro assessment is the proportion of net food buyers in the population, their income and any special constraints they may face on account of their gender, age, ethnicity or other characteristics. The larger the fraction of this group that is close to or below the poverty line, the greater the vulnerability of the country to food price increases. One component of the response is to maintain or enhance the access of these vulnerable sections to food through increases in their ability to grow or purchase food, or through well designed, fiscally sustainable safety nets. A parallel element of the assessment would analyze the differences in the responses of the various producers and take steps to reduce or eliminate the constraints that particular segments, such as small holder farmers, might be experiencing in increasing production.

xvi. While there is generally not enough good quality data at this time, it is possible to analyze several of the most common policy responses in straightforward ways so as to provide guidance for their consideration. Several countries have *restricted exports* of staple cereals, with the intention of lowering prices in the domestic market. This benefits domestic consumers irrespective of their need, but reduces the incentive to produce more, as producers are unable to sell at the more profitable world price. 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, and contributes to increased volatility. The timing, predictability and the ability of the government to commit to such restrictions as well as its ability to reduce hoarding can be critical to their impact. Another factor determining who benefits is how the restrictions are administered: if in the form of quotas, they can be susceptible to rent seeking unless allotted through auctions.

xvii. For countries that are net *food importers*, the immediate impact of the price rise, unless accompanied by an increase in export earnings, will be manifested in less favorable terms of trade. An immediate concern for such countries is meeting the higher import bill. Several countries have lowered or eliminated tariffs, which can reduce somewhat the rise in prices faced by the consumer, but are also accompanied by a loss in revenue for the government.

xviii. For the worst affected, the immediate emergency response is *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. This can be mitigated if food aid in this season is coupled with a guaranteed procurement price for the next season. Wherever possible, aid programs should purchase food locally.

xix. *Safety nets, transfers and price controls* are all intended to protect vulnerable consumers from price rises. A common policy response is to subsidize the price paid by consumers, either through

a general subsidy perhaps in the form of a price ceiling, or a more narrowly targeted program. General subsidies are less efficient in reaching the vulnerable population than targeted ones, could also reduce producer incentives and impose greater fiscal strain than a targeted program. In general, they are not to be preferred – however, targeted subsidy programs require time and money to set up and administer, and a general subsidy may be an appropriate second-best response over a limited time frame.

xx. The fiscal strains due to general subsidy programs provide an opportunity to move towards more targeted interventions. School feeding programs, nutritional support for pregnant and lactating women, public distribution systems aimed at the poor, subsidies on grains/bread consumed mainly by the poor but not by the well-off and 'food-for-work' programs are all important examples of targeted in-kind transfers. Targeted cash transfers (including the Conditional Cash Transfer programs) such as old-age pensions can also be important. Conditional Cash Transfer (CCT) programs are often well targeted and, therefore, able to efficiently reach many vulnerable households, without undermining producer incentives. However, most CCTs were not designed to serve as emergency response mechanisms *per se* and could miss the poorest and the most vulnerable, as they often live in communities that are too marginalized to allow households to fulfill the conditionalities of the program. CCT programs also do not cover households that, under normal circumstances, are just above the cut-off line of program eligibility (i.e. not poor enough) but might have become vulnerable in the current situation. If not already in place, it may be challenging to establish a CCT from scratch to respond to the current crisis as the initial targeting effort can be long, data-intensive and expensive and might further strain fiscal resources. It is also important that there be sound governance capacities and that opportunities for corruption be limited. Also, if CCTs are being used to respond to this situation, it would be crucial to preserve, as much as possible, the integrity of the operational guidelines and structure of the conditionalities in order to ensure their sustainability beyond the crisis.

xxi. Once instituted, subsidy programs prove to be politically very difficult to remove. Therefore it is critical to assess their fiscal sustainability while deciding upon their nature and scope, and also to pre-announce a trigger (e.g. a fall in the world price to a particular level, or a well defined and verifiable eligibility condition) or date by which they will be phased out.

xxii. *Buffer stocks*, used strategically, can lower prices and volatility, but require infrastructure and skills to procure, hold and manage. Countries that choose to create or revitalize them must weigh these costs against the potential of the market being able to provide a timely response to an unexpected shortfall. Building them up at present should be gradual, to avoid further price escalation. Alternatives such as regional grain pools may also be explored, although their utility will be limited if production shocks are correlated across countries in the region. Such buffer stocks can also be used for targeted interventions.

xxiii. The long term, sustained response to the food crisis must come in the form of *increased production* of foodgrains. However, the past decades have been marked by declining public and private investments in agriculture, and this is one reason why higher prices may not in themselves be enough. Public investments in small scale irrigation and extension services would also be needed. Much of the world's farming activity occurs on smallholder farms, with production at or below subsistence However, these 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.

xxiv. It may therefore be necessary to institute targeted, fiscally responsible *subsidies* with a well defined exit strategy to encourage the adoption of critical inputs by small holder farmers while measures to facilitate their access to markets are being put into place and their assets are being built up. One way in which small farm productivity can be boosted, and the benefits of higher market prices be passed on, is through *contract farming*, especially when it is accompanied by input supply and training. A recent extension of this idea is the move by some countries to lease

farmland in others. The terms of such agreements, and *how* they are set would appear to be important to determining the net balance of costs and benefits in the producer country. On the one hand, it would appear to introduce yield enhancing methods and inputs and offer farmers a price floor that could be particularly advantageous during a production glut. On the other hand, 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 lowered volumes coming into the spot markets, leading to increased volatility.

xxv. The policy responses discussed so far are the within the province of individual governments and can be expected to deliver the immediate benefits that will motivate investment in them. However, there would appear to be at least four areas where a more effective response would be at a regional/global level, and might involve the cooperation of governments with each other, as well as with CSOs such as foundations and the private sector. One of these is in the research and development of improved crop varieties and practices, along with ways to transfer the results to the field as quickly and affordably as possible. A second is that a similar effort needs to be made to develop instruments for crop insurance that will be accessible even to small farmers. Both of these initiatives must also be guided by the impending changes that are expected due to climate change.

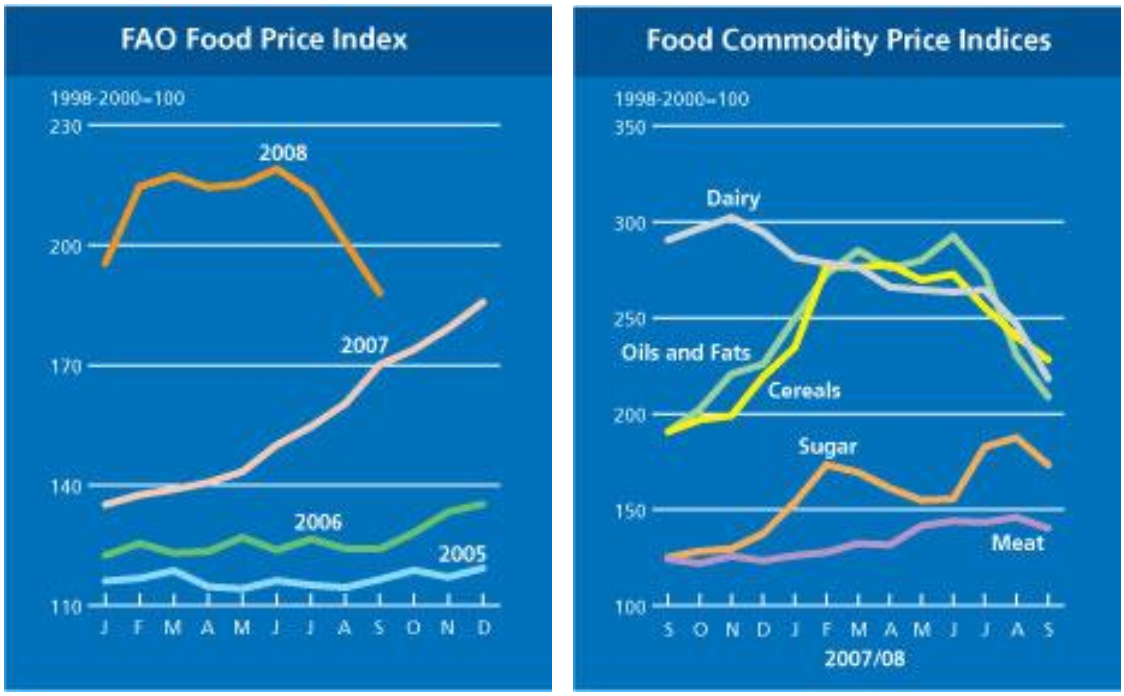
xxvi. A third area where a regional approach might be efficient is in the development of monitoring, prediction and early warning systems. Such systems already exist for seasonal crop predictions but they need to be embedded in more complete models that are related to other vulnerability parameters so as to generate useful predictions for policy planning. A fourth area is for development of a balanced approach to biofuels policy that weighs the longer term harm from aggravated effects of climate change against the immediate responses.

xxvii. UNDP actions arise from the 'Common Framework of Action' (CFA) document that guides the coordinated response of the UN system and the Bretton Woods Institutions to the situation. These include an important role for country offices in coordinating with agencies, governments, NGOs and other partners on the ground to conduct quick assessments; devise feasible, adequately funded and nationally owned programs that address the various elements of vulnerability raised earlier; and contribute to monitoring and evaluation that will, *inter alia* estimate the effectiveness of these responses and draw lessons for fine-tuning them. Regional centers and headquarters have a special role to play in this program, especially in supporting needs assessments, monitoring and evaluation. In addition, their research may also contribute to emerging policy issues such as the design of input subsidies, trade-offs to using GMO crops for productivity gains, measuring the gender and social dimensions of vulnerability, assessing the environmental effect of increased production to meet demand and others.

Introduction

1. The sharp rises in the prices of several important foods have been moderated or reversed over the last few months at the global level (Figures 1 and 3) partly in response to improved crop prospects, falling crude oil prices and the global financial turmoil which has slowed the world economy. This is a welcome change from as recent as March 2008, when the price of wheat was up by over 130 percent, and rice by over 70 percent compared to the same period in the previous year[2]. In real terms, these price increases are not unprecedented – similar increases took place during the early 1970s[3]. However, what is different this time around is that prices increased simultaneously across many crops and other food items, took place after a long period of historical lows (Figure 2) and, are expected to settle at higher levels[4], even after retreating from their recent peaks.

Figure 1: Food Price Indices



Source: World Food Situation at www.fao.org[5]

2. The increase in cereal prices (Figure 3) is, by itself, a matter of grave concern as cereals are a major part of the consumption basket of the poor, and options for substituting away from them are

[2] Contributors' calculations based on the FAO's food production per capita indicator drawn from FAOSTAT Online [http://faostat.fao.org/].

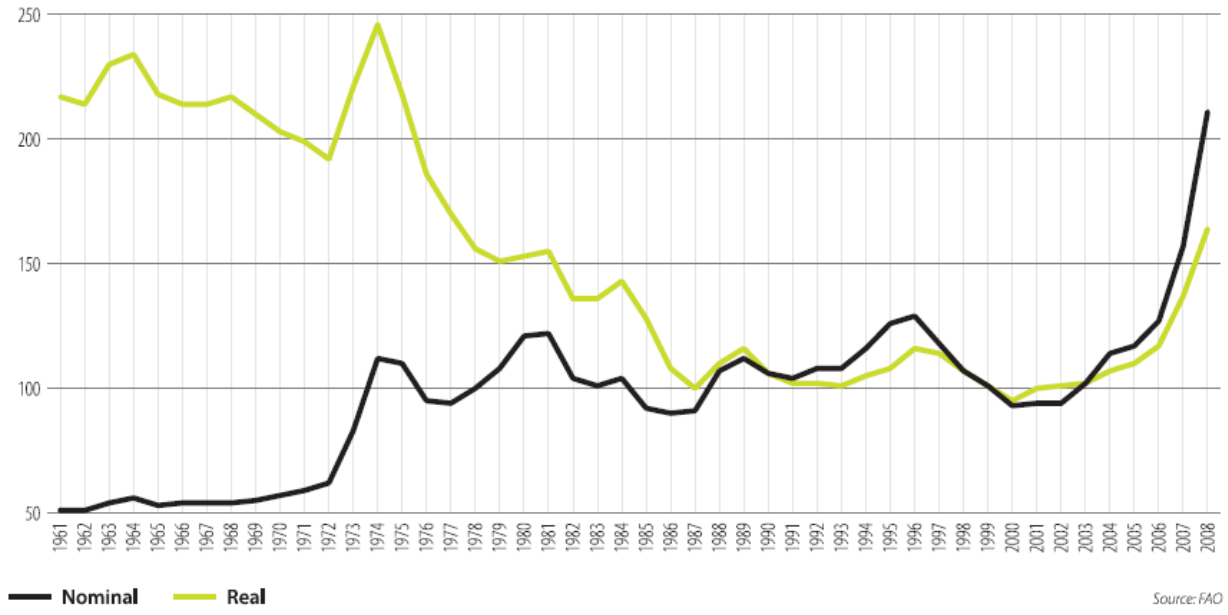
[3] FAO has estimated that in terms of the FAO food price index over the time period 1961-2008, significant (i.e. an annual percentage change that is more than 2 standard deviations above the annual percentage changes for the previous five years) spikes in the real price occurred in 1973 and 1974; and 2007 and 2008 ('Soaring Food Prices: Facts, Perspectives, Impacts and Actions Required, FAO, June 2008).

[4] For example, the OECD/FAO Agricultural Outlook projects that nominal prices for wheat and maize over 2008-2017 will be 40-60 percent higher relative to their average price over 1998-2007, with a smaller but still very substantial rise for real prices.

[5] Accessed 27th October 2008.

limited. For example, the poorest decile in rural India spends about three-quarters of its income on food, with cereals accounting for almost half the total expenditure[6]. Cereals contribute around 80 percent of the total calories consumed by this group, and a significant increase in their price threatens to erase much of the gains in poverty reduction and nutrition that have been achieved in the last decade. Early estimates by the World Bank indicated that a doubling of food prices in the last three years alone threatened to push 105 million people into poverty[7].

Figure 2: Movements in the FAO food price index (1998-2000=100)



Source: 'Soaring Food Prices: Facts, Perspectives, Impacts and Actions Required, FAO, June 2008

3. This leads to significant economic and political consequences. On the macroeconomic front, cereal importing countries face the challenge of how to meet their import bill, which may be compounded by a simultaneous increase in their energy import costs. Additionally, the poor who buy their foods from the market see a significant part of their consumption basket becoming unaffordable – countries where they form a significant fraction of the population face the prospect of civil unrest. At the same time, high prices present a window of opportunity for farmers and others in the global supply chain for agricultural products.

4. Policy responses *within countries*, therefore, need to strike a balance between addressing the impact of these price increases on producers and consumers. In addition to taking care of their immediate fall-out, they also need to address deeper, structural factors. *Across countries*, too, self interests may not always coincide, so a policy response in one country may have an adverse impact on another. At the same time there are several responses that can be pursued most

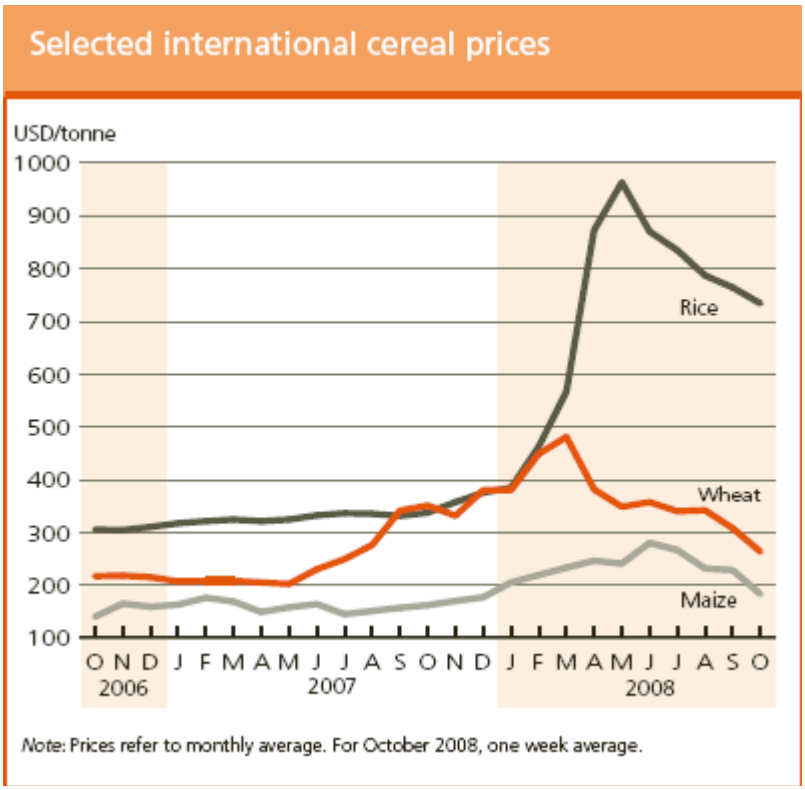
[6] Subramaniam and Deaton (1996) estimate the expenditure share of the poorest decile on food to be 73.4 percent, with cereals alone accounting for 46.0 percent. The corresponding figures for the richest decile are 54.1 percent and 31.0 percent. These figures are for a large Indian state, but are indicative of the proportions in other parts of the country as well.

[7] Ivanic and Martin, 2008:20 and World Bank, 2008a. In view of the new poverty estimates released by the World Bank (http://go.worldbank.org/C9GR27WRJ0, accessed August 26, 2008), this estimate itself would require some review.

efficiently through collaboration across countries. It is therefore important to recognize the regional and global dimensions to policy for the food crisis.

5. Although prices are now falling, they are expected to settle at levels that are significantly higher than the lows of the past few decades. Expectations of better harvests[8] and falling oil prices have contributed to these trends, as has the recent financial turmoil that has slowed global growth prospects[9]. However, there will be significant differences in the impacts of these factors across countries – for example, some will see significant drops in their export revenue that may be offset to varying degrees by reductions in import bills, while the anticipated fall in ODA and constraints in borrowing may make investments in the agricultural sector difficult for others. In addition, the longer term contributory factors continue to operate, maintaining the need for concerted and collaborative policy actions by countries and their development partners.

Figure 3: Selected International Cereal Prices



Source: Crop prospects and Food Situation, No. 4, October 2008, FAO.

6. The purpose of this paper is to provide a first assessment of the causes and implications of these price increases as well as policies that have been, or could be, deployed in response. It is intended to serve as a thinking piece that will stimulate policy discussion, and provide guidance to UNDP staff in country offices as they engage with national governments to address the key

[8] FAO ('Crop prospects and food situation, October 2008') expects a 4.9% increase (when measured in million tonnes) of the total cereal production in 2008/9 over 2007/08, with wheat, coarse grains and rice going up by 11.1%, 2.6% and 2.1% respectively.

[9] The IMF (World Economic Outlook, October 2008) now expects that most developed countries will be in, or close to recession through 2009, and recovery, when it comes, will be exceptionally slow. Growth in developing and emerging economies would decelerate below trend. These would lead to global annual growth dropping from 5.0% in 2007 to 3.9% in 2008 and 3.0% in 2009.

issues. The rest of this paper is organized as follows. Section II examines the reasons behind these price increases. Section III presents a brief survey of regional and country experiences. Section IV outlines a framework for assessment, analyzes the most common policy options, indicates some areas where UNDP may contribute and concludes.

II. Causes and Implications

7. There is, by now, a broad consensus on the factors that have contributed to the current situation, although the relative importance of each factor varies by crop and, to some extent, by country characteristics, and is difficult to estimate reliably. Among the global factors that are expected to persist for a while are the use of some cereals as feed-stock for biofuel and an increasing demand for food, driven at least partly by rising incomes in large emerging economies, particularly in Asia. On the supply side, the sustained decrease in the stock levels of cereals since the mid-1990s (estimated to be, on average, at the rate of 3.4 percent annually since 1995[10] - Figure 6) coupled with sharp decreases in total production in 2005 and 2006 in the major exporting countries[11] helped trigger the price increases. For both consumers and producers, matters were exacerbated by the surge in oil prices earlier this year which drove food prices up through raising transportation costs, and increasing the cost of fertilizers whose manufacture is energy intensive. We will examine, briefly, each of these factors before moving on to the more transitory causes.

8. Efforts to address climate change by reducing greenhouse gas emissions and the desire for energy security have prompted growing interest and policy emphasis on alternative fuel sources. Among these are liquid biofuels such as [12] ethanol (derived from starchy crops – including cereals - and sugar crops) and biodiesel (derived from oilseeds), These fuels account for only about 0.2% of the total global primary energy demand[13], and basic constraints in land and water availability indicate that their share is unlikely to become much larger[14]. However, as they compete with food crops in various ways, their production has a significant impact on food prices, and policy towards them becomes of vital interest.

9. Global production of biofuels in 2007 was 62 billion litres, accounting 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 biodiesel. As seen from Figures 4 and 5 below, production of these biofuels has grown sharply over time[15].

10. Although biofuel 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 biofuels – the OECD estimates that in 2006, support[16] to production and use in the US, the EU and Canada amounted to about USD 11 billion per year[17].

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

[11] 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.

[12] There are several different kinds of biofuels, and different ways of producing them. Ethanol and biodiesel are presently the most important ones, and can also be produced from other kinds of biomass such as switchgrass, algae, used cooking oil, residues from dairy and meat processing and other organic wastes.

[13] 2005 figures quoted in FAO (2008).

[14] For example, the World Energy Outlook 2007 reference model predicted that liquid biofuels would grow to 3.0-3.5% of global transport consumption by 2030.

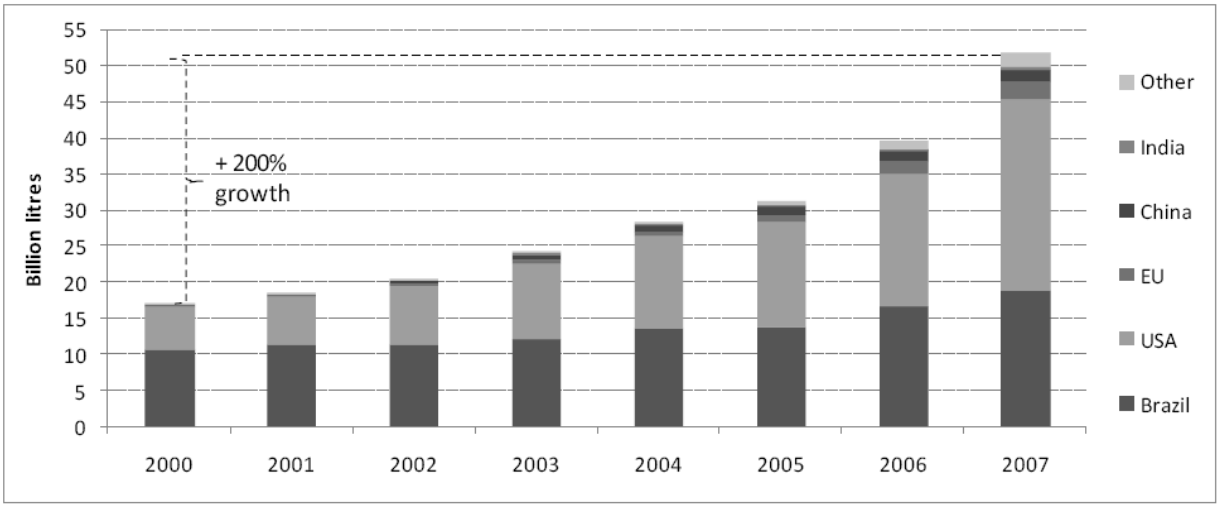
[15] Much of the discussion on biofuels derives from information in 'Economic Assessment of Biofuel Support Policies', OECD, 2008 and 'State of Food and Agriculture', FAO, 2008.

[16] 'Support' in this context covers a wide variety of measures, but the principal ones are through the budget (tax concessions or direct subsidies), mandates (specifying a minimum share of biofuels in gasoline and diesel which typically raises the price of transportation fuel) and trade restrictions (import tariffs to protect the less efficient domestic biofuel industry).

[17] 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

About 8 percent of the global coarse grain production and 9 percent of the global vegetable oil production went towards biofuel 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 biofuel production will drive up average wheat, maize and vegetable oil prices by 5 percent, 7 percent and 19 percent respectively over 2013-2017[18].

Figure 4: World Fuel Ethanol Production, 2000-2007



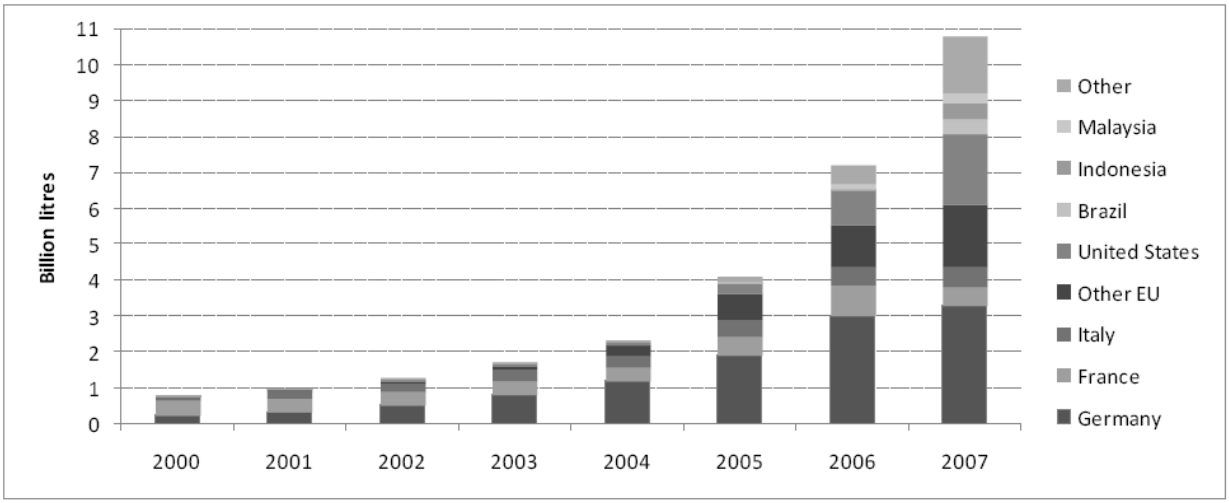
11. It is important to note that although increased oil prices may be expected to improve the profitability of biofuels, the concurrent increase in feedstock prices has had a countervailing effect. As a result, unless there are significant policy changes[19], biofuel supports are likely to stay in one 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.

vegetable oil production could move to biofuel production. However, a reappraisal of these policies is underway: see footnote 21.

[18] These are OECD estimates. IFPRI estimates, based on implementation of existing biofuel 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. See footnote 21.

[19] A reappraisal of these supports may be underway in many countries. For example, the European Parliament's Industry and Energy Committee recently recommended scaling back the binding 10% target on biofuels for transport for 2020 originally proposed by the European Commission. The revised overall target for 2020 would be reduced to 6% for first-generation (crop-based) biofuels. The remaining 4% would have to come from second-generation biofuels, which are derived from waste, algae or other non-food vegetation or from vehicles running on green electricity or hydrogen (The Economist, Sep 16th 2008).

Figure 5: World Biodiesel Production, 2000-2007



Sources for Figures 4 & 5: 'Economic Assessment of Biofuel Support Policies', OECD, 2008.

12. Reduction in poverty, leading to an increased demand for food and for more diverse diets, has also contributed to an upward pressure to prices. As is well known, 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; 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[20]. Consequently, with an estimated 278 million people in developing countries alone moving out of extreme poverty between 1990 and 2004[21], 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[22].

13. Looking ahead, the inter-agency International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), predicts that global cereal demand will increase by

[20] A further consequence of rising incomes is that the household's consumption tends to shift away from 'coarse' cereals such as millets and sorghum (some of which may not be globally traded), and move towards the more 'refined' cereals such as rice and wheat (which are globally traded). As a result, coarse cereal production falls, and when a global price rise is transmitted directly to households, immediate substitution back to 'coarse' cereals may be difficult. In fact, even if 'coarse' cereals are available, substitution towards them would be a powerful force that would drive their prices up too.

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

[22] It may appear somewhat ironic that the progress made towards reaching MDG 1 at a global level has itself contributed to a price rise that threatens to retard achievement of this goal, but only serves to underscore the importance of accelerating efforts to fight poverty across all regions.

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[23]. More than three-fourths of this growth in demand for both cereals and meat will be accounted for by developing countries.[24]

14. 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[25]; besides 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.[26]

15. In addition to these demand drivers, which may be expected to continue for some time, several other factors that are more transient are believed to 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. In recent months, with the decline in stock markets and depressed housing values, commodity futures may have become more attractive investments. 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.

16. Other, arguably transitory factors are supply shocks, due to both the weather and to changes in policies of the exporting countries.[27] Table 1 (next page) presents the market share of the primary grain exporters in 2007 – it is immediately clear that these markets are highly concentrated: three countries account for 90 percent of maize exports, five countries account for 80 percent of rice exports and seven countries account for 90 percent of wheat exports. The volumes traded are also only a small fraction of the total production.[28] Therefore, whenever any one of these countries sneezes, the corresponding grain market catches a cold. The initial response to restrict exports by some of the major producers, and panicked buying by some of the importers contributed further to the price rises.

17. Similar consequences arise when considering weather shocks: it only takes a bad production year in one of a handful of countries to drive prices up. For example, Australia, which exported about 700 thousand Mt of rice in 1999, has virtually abandoned this activity due to recurrent droughts, and this is believed to have had a significant impact on the global price. It is of course, possible, that the recurrent (and correlated) weather shocks that have contributed to the crisis are a first symptom of climate change. If so, they can be expected to become increasingly important over the years and decades to come[29]. Further work is needed for establishing the most effective ways of responding to the impending challenges imposed by climate change on food security.

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[23] One indication of the cereal intensive nature of modern livestock rearing comes from the Worldwatch Institute (http://www.worldwatch.org/node/1626), which 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.

[24] http://www.agassessment.org/docs/Global_SDM_060608_English.pdf accessed August 28th, 2008.

[25] The Baltic Exchange Dry Index, which captures the shipping costs for bulk commodities such as grains and oilseeds, breached the 10,000 mark in 2007, implying that freight rates have increased by over 80 percent from the previous year's levels.

[26] Baffes (2007) p. 6.

[27] Again, the relative magnitude of the impact of each may be difficult to estimate reliably.

[28] Exports as a proportion of total production are about 6 percent for rice, 9 percent for maize and 12 percent for wheat.

[29] Lobell *et al* (2008) carried out an exercise to identify the crops that are most likely to be affected by climate change, and prioritized them according to their contribution in nourishing the poor. They found the *most important* crops to be South Asian wheat, Southeast Asian rice and Southern African maize; and the *important* crops to be Sahelian wheat, Southern African wheat, Brazilian wheat and rice, Central American wheat and rice and Western African groundnut. If correct, these regions would be especially vulnerable to climate induced supply shocks. Rice consumers, in

Table 1: Top Ten Exporters of Maize, Wheat and Rice, 2007

Top 10 Maize Exporters, 2007	In 1000 metric tons	Share of global
United States	63,503	66.3
Argentina	15,000	15.7
Brazil	9,000	9.4
Paraguay	1,500	1.6
South Africa, Republic of	1,500	1.6
Ukraine	1,500	1.6
India	700	0.7
China, Peoples Republic of	500	0.5
Canada	400	0.4
EU-27	300	0.3
World	95,713	100

Top 10 Wheat Exporters, 2007	In 1000 metric tons	Share of global
United States	34,700	32.3
Canada	14,000	13.1
Russian Federation	12,500	11.7
Argentina	9,500	8.9
EU-27	9,000	8.4
Kazakhstan, Republic of	8,500	7.9
Australia	7,500	7.0
China, Peoples Republic of	2,700	2.5
Turkey	1,500	1.4
Pakistan	1,000	0.9
World	107,275	100

Top 10 Rice Exporters, 2007	In 1000 metric tons	Share of global
Thailand	9,000	32.7
Vietnam	4,000	14.5
United States	3,582	13.0
India	3,000	10.9
Pakistan	2,900	10.5
China, Peoples Republic of	1,000	3.6
Egypt	800	2.9
Uruguay	800	2.9
Argentina	450	1.6
Myanmar	400	1.5
World	27,532	100

Source: Own elaboration from USDA Production, Supply and Distribution Database [http://www.fas.usda.gov/psdonline/psdQuery.aspx].

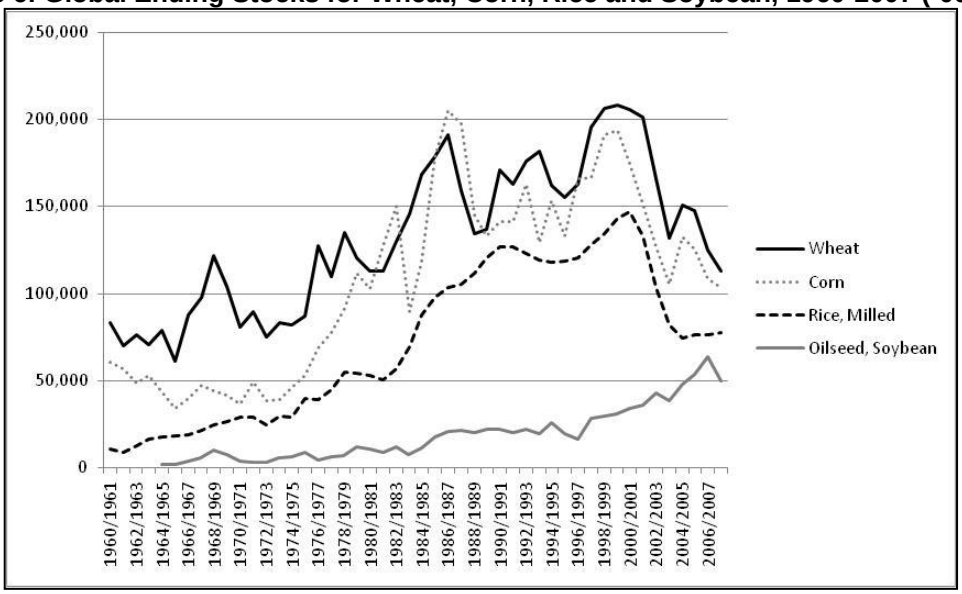
18. The collective effect of these factors contributed to demands outpacing supply over the last few years. Figure 6 shows the gradual decline in global closing stocks since the early 2000s, and documents the cumulative effect of increases in demand, unmatched by corresponding increases in production, drawing down stocks, and leading to price rises. The global supply picture is expected to improve this year, with FAO forecasting improved harvests this year, leading to a 4.9% increase in global cereal production over the last year[30].

particular, would appear to be especially at risk - about 50 percent of the rice traded globally comes from Southeast Asia.

[30] FAO. 2008 b. "Crop Prospects and Food Situation," No. 4, October 2008. Rome

19. Other factors aggravate problems arising from the global factors outlined above. For example, the effects of the price rises vary along the gender dimension in most countries. Women are often charged with obtaining and preparing food for their families, and it is also often the case that women and girls eat last or eat different food than men and boys. When food is scarce, this increases the likelihood of their going hungry[31], or having a less nutritious diet. Traditionally, women are also the caregivers of the family, and if the scarcity of food leads to malnutrition or disease, it will most likely result in additional demands on their time.

Figure 6: Global Ending Stocks for Wheat, Corn, Rice and Soybean, 1960-2007 (`000 MT)



Source: USDA Production, Supply and Distribution Database

20. Conflict and post-conflict countries, too, face impacts that may be different from otherwise similar countries. They are among the most vulnerable due to their low levels of production, negligible stockpiles, limited ability for purchases in the global market, and restricted access to food for parts of the population. Around three-quarters of the 37 countries requiring special assistance to deal with the food crisis[32] are actually countries that have recently gone out of or are currently experiencing episodes of conflict, and/or are recovering from natural disasters. In some cases as in the North of Uganda, Sudan or Myanmar, the conditions created by conflict or disasters are directly responsible for the incidence or severity of food-related problems at the local level. In these countries, little ability may remain for dealing with this shock - households may have been deprived of their assets, or may have already tapped into them. Furthermore, the state's (typically) limited institutional, technical and financial capacities are often overstretched in the face of massive reconstruction and rehabilitation needs, impeding their ability to adequately respond to the food crisis.

21. At the same time, the price rises contribute to increasing incomes for commercial producers, and can be significant incentives for increasing production in the future. Such production increases can come from both large agri-businesses and, crucially, from smaller farmers provided the benefits of higher prices are passed through to them, and they have access to affordable inputs.

[31] Even before the current price increase, UNIFEM estimated that 70 percent of the world's hungry are female (UNIFEM, Women's Funding Network. 2007. "World Poverty Day 2007: Investing in Women-Solving the Poverty Puzzle," at http://www.womenfightpoverty.org/docs/WorldPovertyDay2007_FactsAndFigures.pdf).

[32] http://www.fao.org/giews/english/hotspots/index_m.htm. This list does not include Myanmar or Mozambique where food problems have emerged.

Policies that expand the access of small farmers (and especially, women, in the many countries where they contribute significantly to agricultural production[33]) to inputs and knowledge, and to competitive markets, could lead to a 'pro-poor' benefit in many areas. Additional gains in poverty reduction may also be expected if these developments improve opportunities for employment and wages in rural areas.

22. To summarize, the rise in food prices could present an economic and a political challenge for governments, which would be compounded by the concurrent increase in oil prices. Food and oil are both goods that are difficult to substitute away from, and any increase in their prices results in inflation and economic hardship for consumers, accompanied by potentially higher profits for producers and suppliers[34]. Oil price increases added to food prices through driving up transportation costs and the costs of inputs such as fertilizer. Importantly, one element of distinction between the two comes from the differential importance of each in the consumption baskets of poor and others. The share of food in the consumption basket of the poor is very high, and falls with income. The opposite is the case with oil – the share of petroleum in the consumption basket of the poor is relatively small, but rises with income. In countries where the poor are numerous, and are net consumers of food[35], a food price increase could directly cause far greater erosion in the real value of the incomes of far more individuals than a corresponding increase in the price of oil[36]. This gives particular urgency to efforts to mitigate the food crisis.

23. It would appear, therefore, that a simple assessment of the vulnerability of a country to a food crisis should be based on indicators that capture two broad factors – the first, on the severity of the impact of the price increase (in terms of the country's import bill and the fraction of its people below the poverty line who are net food buyers); and the second, on the country's ability to redress these impacts and its capacity to ensure that the availability of food within the country is not skewed away from the poor or the disadvantaged (in terms of its ability to pay for its imports and the fiscal space for ensuring equitable access to food through effective safety nets and other measures such as reduced taxes[37]). Work is in progress to put together a minimal set of indicators could help to diagnose the severity of the crisis in a given country.[38]

[33] FAO (Gender and Food Security-Agriculture on http://www.fao.org/gender/en/agri-e.htm) estimates that women produce between 60 percent and 80 percent of the food in most developing countries.

[34] Eventually, as the experience with the oil price shocks of the 1970s indicates, both oil and food price shocks will be attenuated by a long term supply response, and more efficient means of production and consumption.

[35] This can vary by region but in most developing countries is above 50 percent. For example, the percentage of the poor who are net consumers of food in some selected countries is as follows: Bolivia (87 percent), Ethiopia (52 percent), Bangladesh (87 percent), Zambia (66 percent), Cambodia (46 percent), Madagascar (52 percent), Vietnam (47 percent). (Conceicao and Mendoza, 2008.)

[36] This is also an effect that is immediately felt – in the long term, an oil price shock may also cause erosion in real incomes as the costs of food rise due to increased transportation and input costs, and as workers lose jobs while businesses shut down and GDP growth slows. Even in the short run, individuals may be able to find some ways to substitute away from oil use (e.g. walking rather than taking a bus), but such adaptation is much harder for cereals, especially when the price of all rise in concert.

[37] A rights based framework might provide an useful way to thoroughly assess the impact of food price increases on vulnerable groups by analyzing the deeper political, economic and socio-cultural determinants and power relations that structure the ways in which rising food prices affect different people in different ways. It can also help guide the design of policies by establishing the obligations of states in regards to protecting the right to food and other rights associated to its realization.

[38] Since net producers of food benefit from the prices, care has to be taken to distinguish between them and the net consumers, even among the poor, while conducting vulnerability analyses, as well as framing appropriate policy responses.

III Regional and Country Responses

24. While many of the causes of the food price increase are global, there are significant inter-regional disparities, and differences in preferred policy responses. This section, based on case studies prepared by UNDP's regional bureaus, examines the experiences across several regions. Our aim here is not to be exhaustive in any way, but to choose examples that highlight region-specific factors and also provide concrete policy examples that will feed into the analysis of the policy options in the next section.

25. The ***Arab States*** are characterized by a high dependence on food imports and, in general, poor water availability that limits the ability to produce food domestically, even under the best conditions. To illustrate, self-sufficiency ratios for cereal in 2004 averaged only 31.3 percent in the region, ranging from 2 percent in Oman and 11 percent in Libya to 78 percent in Egypt[39]., highlighting the importance of imports in these countries. The situation is aggravated by chronic water scarcity in the region - by 2004, water demand had already exceeded the actual water resources available in the region by about 46 percent, and seven of its countries rank amongst the ten most water-scarce in the world[40]. Desert represents more than 86 percent of all Arab countries leaving around 14 percent cultivable land of which only 4.2 percent is being used (75 million hectares in 2006). Serious stress on available water resources reduces the region's ability to utilize cultivable lands to their full potential.

26. For the oil exporting countries, the net effects of the increased revenue from higher oil prices are expected to outweigh the rise in the food import bill. However, countries such as Jordan, Lebanon and Morocco that import both food and fuel are particularly vulnerable. This is captured by Jordan's increasing trade deficit - for the first four months of 2008 this increased by 39 percent over the corresponding period in the previous year. The CPI inflation rate stood at 12.7 percent for the first five months of 2008, compared to 6.7 percent for the same period in the previous year[41]. Fuel and food subsidies were being phased out by the government, but this process has now slowed while the government is devising and putting into place a targeted, social safety net program. There is also an attempt to increase the production of wheat and barley through a commitment to purchase the products at the international price, designating land for grain cultivation and launching a special support program for this purpose.

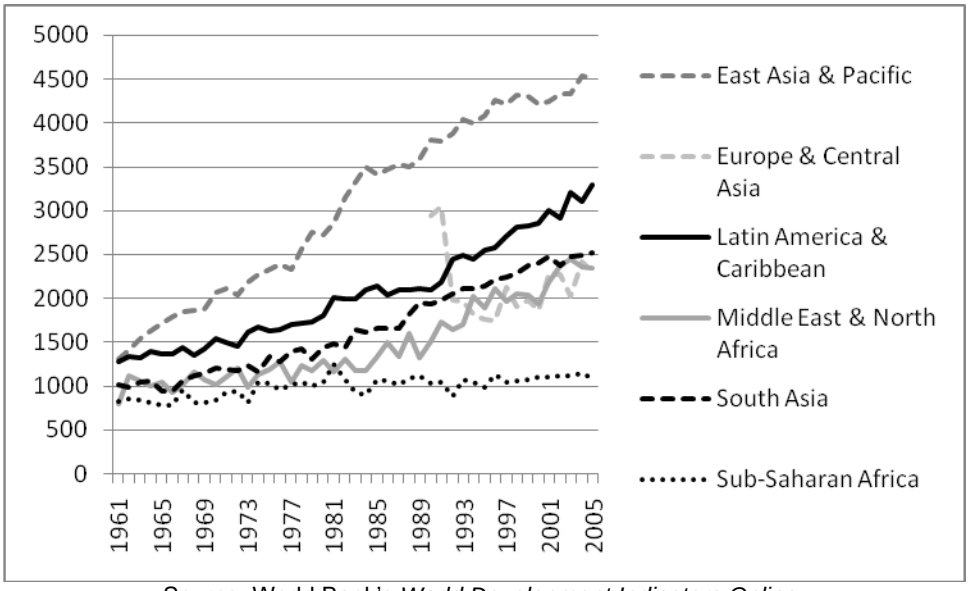
27. A particularly interesting response from the region is the move to secure food supplies from other countries, through direct production and purchase contracts (including, sometimes, investments in land and machinery) with producers in that country. For example, Saudi Arabia is reportedly planning to develop large-scale overseas agricultural projects, possibly in Sudan and Egypt[42]. The plan, thus far, is to design projects of up to 100,000 hectares to grow crops such as wheat, corn, rice, soybeans, and alfalfa, a feed for livestock, with most of the produce being exported back.[43]

28. The experience of countries in ***Sub-Saharan Africa (SSA)*** has been in line with those in the rest of the world, but highlight three interesting points. The first is that the prices of cereals such as millet and sorghum, which are important elements of the consumption basket in many countries, have also risen sharply, in line with globally traded ones such as wheat, maize and rice. The second is that with a large proportion of the population below the poverty line in many countries,

[39] "Food Security and Agriculture in Arab Countries: Facts, Challenges and Policy Considerations", UNDP and League of Arab States, July 2008.
[40] 2007 UN. "The Millennium Development Goals In The Arab Region: A Youth Lens", United Nations, 2007.
[41] "Recent Monetary and Economic Developments in Jordan: Monthly Report for June 2008," published by the Central Bank of Jordan.
[42] Other countries reportedly considering such initiatives are the UAE in Kazakhstan and Sudan, Libya in Ukraine, South Korea in Mongolia and China in south-east Asia ("Foreign fields: rich states look beyond their borders for fertile soil," Financial Times, 19 August, 2008.
[43] Financial Times. 'Saudis plan to grow crops overseas.' 13 June 2008.

the political consequences of the price rise have been especially severe – there have been riots in Burkina Faso, Cameroon, Guinea, Mozambique, Niger and Senegal. Low national stockpiles and the tightness of global markets have also magnified the effect of local disturbances such as drought in Burkina Faso, a cyclone in Madagascar and floods in Ghana. The situation has been compounded by the significant size of the already vulnerable population in conflict states, or afflicted by HIV/AIDS, malaria and other diseases. The third, is that although cereal yields have been stagnant here at about 1 MT/ha since the early 1960s (they grew from a similar starting point to between 2.5 – 4.5 MT/ha in 2005 for other parts of the world, see Figure 7), recent experience shows that targeted interventions in this area can have a tremendous positive effect.

Figure 7: Cereal Yields for Selected Developing Regions, 1961-2005 (kg/Ha)



Source: World Bank's *World Development Indicators Online.*

29. The case of *Niger* illustrates some of these points. It has a population of 14 million, with 62 percent below the poverty line. Agriculture dominates the economy although less than 12 per cent of the country is arable. Farming practices are low-intensity and mostly manual, taking place in small-scale family plots and almost exclusively aimed at self-sufficiency. Nearly all cultivated land is devoted to rain fed crops, mostly millet, sorghum and cowpea, and to a lesser extent, cassava, and a large proportion of food imports are cereals, particularly rice and wheat. High prices have been accompanied by drawdown of the country's cereal stocks.

30. Two points about the country's situation are noteworthy. First, the price of millet has doubled over the previous year, although millet is not a globally traded cereal. Poor levels of production in neighboring countries such as Nigeria, or export restrictions in imposed by others such as Mali and Burkina Faso have exacerbated the situation. Next, the population of migratory pastoralists tends to be particularly vulnerable due to their additional need for fodder for their livestock, especially during dry periods when natural grazing is poor. In Niger, poor households in pastoral communities are migrating away from their traditional areas into pastoral enclaves in agricultural zones.

31. Government has responded by selling cereal at subsidized prices and by deferring the sales tax on imported rice. It has also recommended permanent monitoring of the most vulnerable areas. Overall, there is limited fiscal space for financing the sustainable social safety net measures that are needed to mitigate the adverse effect of high food prices on the most vulnerable.

32. A somewhat different picture emerges from *Malawi*, which has drawn attention for the sharp increase in its maize production that occurred over 2006-2007. Following droughts in previous years, that resulted in a negative growth rate of about 8.6 percent in the agricultural sector in 2005, Malawi is estimated to have increased its maize production by 87 percent in the following year due to a combination of good weather, a targeted subsidy on fertilizer and improved maize seeds that reduced their price to about a fourth of the market value, and a procurement price floor[44]. In absolute terms, the country exported a surplus of 0.25 million metric tonnes of maize after meeting its domestic needs of 2.2 million metric tonnes. While a detailed evaluation of the program is underway[45] , the challenge for the government would appear to be the continuance of the subsidy programme that places significant strains on the country's fiscal situation, especially in the context of increasing fertilizer prices - the government spent an estimated US$53 million, US$80 million and US$121 million in the first, second and third years respectively on this program.

33. Although there is concern about the increase in food prices across the ***Central Asia and Europe*** region, the context here is in general somewhat different from that in other parts of the world. Most countries during the last ten years have benefitted from significant growth in agricultural and food production, imports, and consumption, as part of their on-going recovery from the transition turbulence of the 1990s. Even though some of the countries here have been/are being affected by drought (e.g., Albania, Moldova, Turkey), the problem is not one of general, long term, agricultural production shortfalls. Many countries—including Ukraine, Uzbekistan, Croatia, the Former Yugoslav Republic of Macedonia, Serbia, and a number of the new EU member states (Bulgaria, Hungary, Lithuania, Poland)—are net exporters of food and agricultural products. Moreover, governments in some other net food importing countries (e.g., Russia, Azerbaijan) have benefited from the boom in energy and commodities prices, which has cushioned the terms of trade impact of the food price increase.

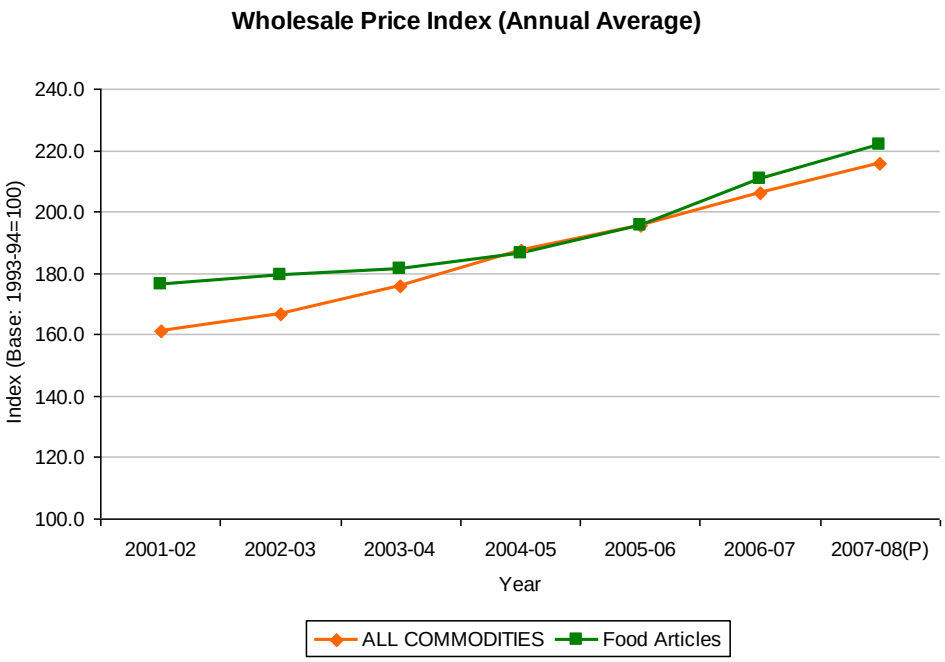
34. *Ukraine* is one of the major wheat exporters, but up until recently, its response to the rising prices was to introduce export restrictions (quotas) in order to protect its consumers. These policies are estimated to have cost producers more than US$2 billion in 2007-08 in terms of forgone revenues. Even if it is assumed that these losses could be fully translated into reduced food prices for consumers, it would only amount to approximately US$52.30 per year per person. The export restrictions also increased the tightness of the world market and further exacerbated the global price situation.

35. However, in May 2008 the Government of Ukraine increased the grain export quotas. Consumer interests have been addressed through other policy measures – there were large increases in nominal wages and transfers in early 2008, local administrations have been empowered to set maximum profit margins for bakeries, and there is the possibility that an existing targeted social safety net could be scaled-up to help poor households cope with the rising food prices.

36. The ***Asia-Pacific*** region is characterized by the presence of large producer/consumer nations such as China and India, along with smaller nations such as Cambodia and the island states[46]. In India, food represents 60 percent of the consumer price basket[47] and the Wholesale Price Index (WPI) has shown a constant increase since 2001-02 but the prices of food articles have been rising faster since 2005-06 (Fig. 8).

[44] "Malawi: Can it feed itself?", The Economist, May 1, 2008.
[45] An interim report, 'Evaluation of the 2006/7 Agricultural Input Supply Programme. Malawi', by Imperial College, London, Wadonda Consult, Michigan State University and Overseas Development Institute, May 2007, is available.
[46] Like several other countries the small island states import both petroleum and food, but their vulnerability is heightened by the significantly higher transportation costs than mainland countries.
[47] The Economist. 2008. "Inflation in emerging economies: An old enemy rears its head," May 22nd 2008.

Figure 8: Price Changes in India



Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India

37. In the past two years the price index for food has increased almost 27 points, while it had only increased by 20 points in the previous 4 years. This has been driven largely by increases in the prices of cereals, and pulses. Poverty remains a significant challenge, with the 2004-05 poverty ratio being estimated as about 29 percent for rural areas and 26 percent for urban areas. An additional indicator of the vulnerability of the population is the large fraction employed in the unorganized sector, who do not have access to insurance, graduated pay increases, and other benefits, and are particularly at risk from negative shocks.

38. India has responded to this situation through a combination of trade related measures, safety nets and use of its grain stocks. It banned non-basmati rice exports effective April 2008, and imposed an export duty on the exports of basmati rice, aggravating the already tight position in the thin global market for rice. Import duties on rice were removed as of March 2008. To further support consumers, the Government has used its existing 'Targeted Public Distribution System' (TPDS) to sell subsidized cereals to pre-identified poor families, through a network of more than 462,000 'fair price shops'. The National Rural Employment Guarantee Program also provides the rural poor with at least 100 days of paid work in the year, and functions as a targeted conditional cash transfer mechanism that helps mitigate the effect of high prices, at least among the able bodied. The Government also seeks to maintain a minimum buffer stock of 20 million tons of rice and wheat, from which releases are made regularly into the open market to maintain prices, and which is replenished through offering a commercially attractive support price for grain procurement, and through imports as needed. The minimum support prices for rice and wheat were raised by 33 percent and 56 percent respectively in 2007-08, and the government has imported wheat to maintain its level in the stockpile.

39. Population and income growth in the countries of the ***Latin American and Caribbean*** has contributed to price hikes for food in both local and global markets. The growing prosperity of the region can be gauged from the fact that the proportion of cereals in the dietary intake fell from 52 percent in 1995 to 43 percent in 2003, while the proportion of animal protein went up from 14 percent to 19 percent over the same period.

40. Mexico is a net importer of food, but a net exporter of oil. It is one of the largest economies in the region, with a population of 100 million, 76 percent of which is urban, and 3 percent of which is below the poverty line. Inequality is a notable characteristic of the country, with the income Gini being 0.51. Trade liberalization in Mexico and its joining NAFTA had a major effect on its agricultural sector, especially maize farming, and tariffs and quotas on most commodities have been phased out.

41. Table 2 below shows the annual variation in the prices of foods that make up the consumption basket in Mexico. The increase in prices provoked riots in January 2007, in response to which the Government negotiated with tortilla producers to keep the price of this staple down. The government is also using an existing conditional cash transfer program, 'Oportunidades', to funnel an additional cash transfer meant exclusively for food purchases to assist up to 26 million Mexicans.

Table 2: Price Changes in Mexico

Percentage Change

Commodity	2006 Jan	2006 Dec	2007 Dec	2008 Mar	Weighted Average
Wheat	2	14	26	29	1.20%
Bread	1.7	8.9	16.6	15.7	
Wheat Flour	-0.7	5.2	20.5	20.8	
Sugar					2%
Bottled Beverag	3.5	4.3	4	4	
Sweets	1.9	2.6	7.1	6.7	
Rice	0.4	10.2	7.5	12	0.20%
Maize					-1.20%
Corn	1.4	9.7	12.1	9.1	
Corn Tortillas	5	13.8	5.6	1.9	
Soy and other seeds					1.90%
Beer	2.4	4.3	3.4	6.6	
Vegetable Oils	-3.2	1.2	19.6	33.3	
Dairy					0.40%
Cream	2.9	2.8	7.3	9.8	
Cheese	3.1	1.6	14.9	15.6	
Otros Alimentos					2.30%
Bottled Water	-1.4	-1.6	4.3	4.5	
Eggs	-8.4	15.8	17.9	23.5	

* Selected food commodities are displayed.

42. The Government has also removed quotas and tariffs for food and animal feed imports, eliminated import taxes on fertilizers, and extended credit to farmers while instituting price caps on milk and maintaining subsidies on gas prices. The net impact of all these measures on the budget is expected to be negligible, given that Mexico is a net exporter of oil, and has benefited from the rise in its price.

IV Responding to the crisis

43. As the previous section shows, 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. At the same time, policies such as export restrictions, meant to safeguard consumers in one country, could end up harming those in another. Table 3 is indicative of some of the responses that were observed as immediate reactions[48].

Table 3: Policy Responses across Regions

	Africa	East Asia and Pacific	East Europe and Central Asia	Middle East and North Africa	South Asia	LAC
Reduce taxes on foodgrains	17	6	8	7	6	5
Increase supply using foodgrain stocks	9	8	4	5	5	0
Export restrictions	10	3	7	4	5	2
Price controls/consumer subsidies	8	9	12	8	5	4
Cash transfers	17	2	7	7	5	3
Food for work	20	2	1	0	4	1
Food ration/stamps	7	1	0	4	3	1
School Feeding	23	4	3	5	7	3
Total countries surveyed	47	13	30	9	8	9

44. How should a country think about these policies? Policies that are actually adopted by a country would be grounded in country circumstances, and even the most basic country assessments must be designed to illuminate the relevant components of vulnerability, and to provide enough information to allow for differentiated responses across the various elements of its population. At the macro level, a primary concern is with securing the population's aggregate requirement of food at an acceptable consumer price level. Crucial to the macro assessment therefore would be

[48] Table 3 is based on data from the World Bank website. More recent surveys are available in, for example, FAO's crop prospects series. These also record additional responses such as procurement support prices meant to encourage production. However, they tend to be less comprehensive in terms of countries covered.

the food balance, reflecting the country's degree of self sufficiency at the aggregate level, the amount imported and its impact on the current account. Aggregate level responses include strategies to manage the rising costs of food imports, especially at a time when fuel import bills may also be high; and measures to boost domestic food production, often through public investments. For many countries, there may be a trade-off between responses that mitigate the effects of high prices on consumers, and those that maintain the incentive effects of these prices on producers.

45. At the micro level, policy interventions take regional and household level differences into account. Crucial to the micro assessment is the proportion of net food buyers in the population, their income and any special constraints they may face on account of their gender, age, ethnicity or other characteristics. The larger the fraction of this group that is close to, or below the poverty line, the greater the vulnerability of the country to food price increases. One component of the response is to maintain or enhance the access of these vulnerable sections to food through increases in their ability to grow or purchase food, or through well designed, fiscally sustainable safety nets. A parallel element of the assessment would analyze the differences in the responses of the various producers and take steps to reduce or eliminate the constraints that particular segments, such as small holder farmers, might be experiencing in increasing production.

46. At this time, there is generally not enough good quality data for an exhaustive analysis[49]. The rest of this section will analyze several of the most common policy responses in straightforward ways, while calibrating against actual experiences wherever possible, so as to clarify the issues involved for the guidance of policy makers.

Export Restrictions

47. Several producer countries have restricted their exports of staple cereals. For example, Cambodia, China, India and Vietnam have all introduced export restrictions on rice, and Ukraine has done so 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, which 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 lead to increased volatility in the prices.

48. 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 is expected 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 captured 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.

49. Returning to the case of Ukraine,[50] which was briefly presented in the previous section, the high wheat prices are evidently an opportunity to increase production, export, and revenues. Such

[49] Increasing the availability of such data, and the capacity to analyze it meaningfully can also be an important objective at the country level.

[50] Information for the Ukraine is drawn from: World Bank. 2008. "Competitive agriculture or state control: Ukraine's response to the global food crisis, mimeo.

increases would also relax the current 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 2007-08, and could have negative incentives for their investment decisions.

50. Further, quotas are allotted in a way that encourages rent-seeking – traders submit applications and a special commission allots quotas to individuals in proportion to what has been requested. An alternative, which would encourage an efficient allocation, would be to auction the quotas but this has not been introduced so far. In April of 2008 the Government of Ukraine relaxed, but did not eliminate, the grain export quotas, thereby making it a real possibility that they would remain in force at the next harvest period.

51. Relaxing the export restrictions should be accompanied by an increase in the domestic price of the grain. However, increases in nominal wages in early 2008 also helped to cushion the effects of the price increases. It is estimated that this rise in incomes could have helped prevent, a six-fold increase in the poverty rate. Ukraine also has in place targeted social transfer programs for reaching the poor, which have been scaled up to deliver relief from the high prices.

Food imports

52. For countries that are net food importers, the short term impact of the price rise can be manifested in less favorable terms of trade. An immediate concern for such countries is meeting the higher import bill. The Food and Agriculture Organization (FAO) reports that the cereal import bill of the world's poorest countries is expected to increase by 56 percent in 2007, which is 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 be between 40 percent and 60 percent in 2008 compared to 2007. For countries whose export earnings have also risen adequately, perhaps through commodity revenue, this may be less of a concern.

53. Several countries that import food have responded to the crisis by lowering or eliminating tariffs on such imports. Such measures can reduce somewhat the rise in prices faced by the consumer, but are also accompanied by 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.

54. For the worst affected, the immediate emergency response may be food aid. The 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 this season should ideally be coupled with a guaranteed procurement price for the next season. Wherever possible, WFP and other such aid programs should purchase food locally.

Safety nets, transfers and price controls

55. A sharp increase in the price of food affects the poor far more than a similar increase in the price of other goods because food forms a much larger share of their consumption basket. 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 foodgrains[51], with a different nutrient profile. In other cases, this may imply 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.

56. 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 program. General subsidies are less efficient than targeted ones, and could also reduce producer incentives by lowering prices. They may also be accompanied by a greater fiscal strain than a targeted program. In general, they are not to be preferred – however, targeted subsidy programs require time and money to set up and administer, and a blanket subsidy may be an appropriate response over a limited time frame.

57. School feeding programs, 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 better-off and 'food-for-work' programs are all important examples of targeted in-kind transfers. Targeted cash transfers (including the Conditional Cash Transfer programs) such as old-age pensions are also important.

58. Conditional Cash Transfer programs are often well targeted and, therefore, able to efficiently reach many vulnerable households, without undermining producer incentives. However, most, if not all, CCTs were not designed to serve as emergency response mechanisms *per se*. They are longer-duration interventions aimed at smoothing consumption for poor households in the short-term and promote investment in human capital in the long-term. However, given the fact that 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[52].

59. In considering the use of CCT programs to address the current crisis, it is important to keep a few things in mind, though. On the one hand, most CCT programs do not cover the poorest of the poor, as they normally live in communities that are too marginalized to allow households to fulfill the conditionalities of the program (regular attendance to school and health clinic, mostly). CCT programs also do not cover households that, under normal circumstances, are just above the cut-off line of program eligibility (i.e. not poor enough) – several of these could be vulnerable in the current crisis[53]. Mexico has taken advantage of the *Oportunidades* infrastructure to increase the cash allowances and has also added on other components to expand support to households not covered by the program as part of the wider *Vivir Mejor* (Live Better) strategy.

60. It is also important to keep in mind that if not already in place, it is may be challenging to establish a CCT from scratch to respond to the current crisis. The initial targeting effort can be long, data-intensive and expensive and might further strain fiscal resources[54]. It is also important that there be sound governance capacities and that opportunities for corruption be limited. Another important consideration is that, if CCTs are being used to respond to this crisis, it would be crucial to preserve, as much as possible, the integrity of the operational guidelines and structure of the conditionalities in order to ensure their sustainability beyond the crisis.

61. Price ceilings have also been used in some countries (e.g. Mexico's cap on tortilla prices). As such measures are generally un-targeted (unless the ceiling is imposed on a cereal that is

[51] Such a shift is one mechanism by which an increase in the price of one foodgrain is transmitted to another.
[52] The *Oportunidades* program in Mexico, has included a nutritional supplement for children and pregnant and lactating women since its inception in 1997.
[53] CCTs' beneficiary cadastres are revised periodically, but perhaps not often enough to be able to incorporate the new households that have become eligible since the last revision.
[54] Once in place, CCTs can be quite cost-efficient, but to establish a well designed, ideally sustainable, program 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.

primarily consumed by the poor) they can, therefore, be quite inefficient. Also, they significantly depress producer incentives, unless the government sets a guaranteed procurement price floor. The latter would lead to added strains in the budget.

62. Once instituted, these types of programs prove to be politically very difficult to remove. Therefore it is critical to assess their fiscal sustainability while deciding upon their nature and scope, and also to pre-announce a trigger (e.g. a fall in the world price to a particular level, or a well defined and verifiable eligibility condition) or date by which they will be phased out.

Buffer stocks and grain pooling

63. Buffer stocks, used strategically, can lower prices and volatility, but require infrastructure and skills to procure, hold and manage. Countries that choose to create or revitalize them must weigh these costs against the potential of the market being able 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). At present, such build up should be gradual, to avoid further price escalation. Alternatives such as regional grain pools may also be explored, although their utility will be limited if production shocks are correlated across countries in the region.

64. Such buffer stocks can also be used for targeted interventions, as in the case of India's Targeted Public Distribution System (TPDS). Although the TPDS represents an improvement over previous PDS schemes[55], an evaluation of the program in 2005 revealed that "about 58 per cent of the subsidized food grains issued from the Central Pool do not reach the BPL (below poverty line) families because of identification errors, nontransparent operation and unethical practices in the implementation of TPDS. The cost of handling of food grains by public agencies is also very high. According to the study, for one rupee worth of income transfer to the poor, the GoI spends Rs.3.65, indicating that one rupee of budgetary consumer subsidy is worth only 27 paise [cents] to the poor."[56] Leakages and diversions raise the delivery cost; for every kilogram of food grains delivered to the poor, the GOI had to issue 2.4 kg. of subsidized grains. As is common in India, regional disparities are significant and the magnitude of these problems varies from State to State.[57]

Long term productivity boosting measures

65. The long term, sustained response to the food crisis must come in the form of increased production of foodgrains. However, the past decades have been marked by declining public and private investments in agriculture, especially in staple food production. For example, Figure 9 shows the trends in ODA for agriculture. This has diminished the capacity of agricultural systems to respond efficiently to the crisis.

66. The neglect of investment is one reason why higher prices, while being a strong incentive to farmers to increase production, may not in themselves be enough. Public investments in small scale irrigation and extension services would also be needed. Much of the world's farming activity occurs on smallholder farms, with production at or below subsistence levels. The technology exists to boost productivity on these farms. However, these farmers have low assets,

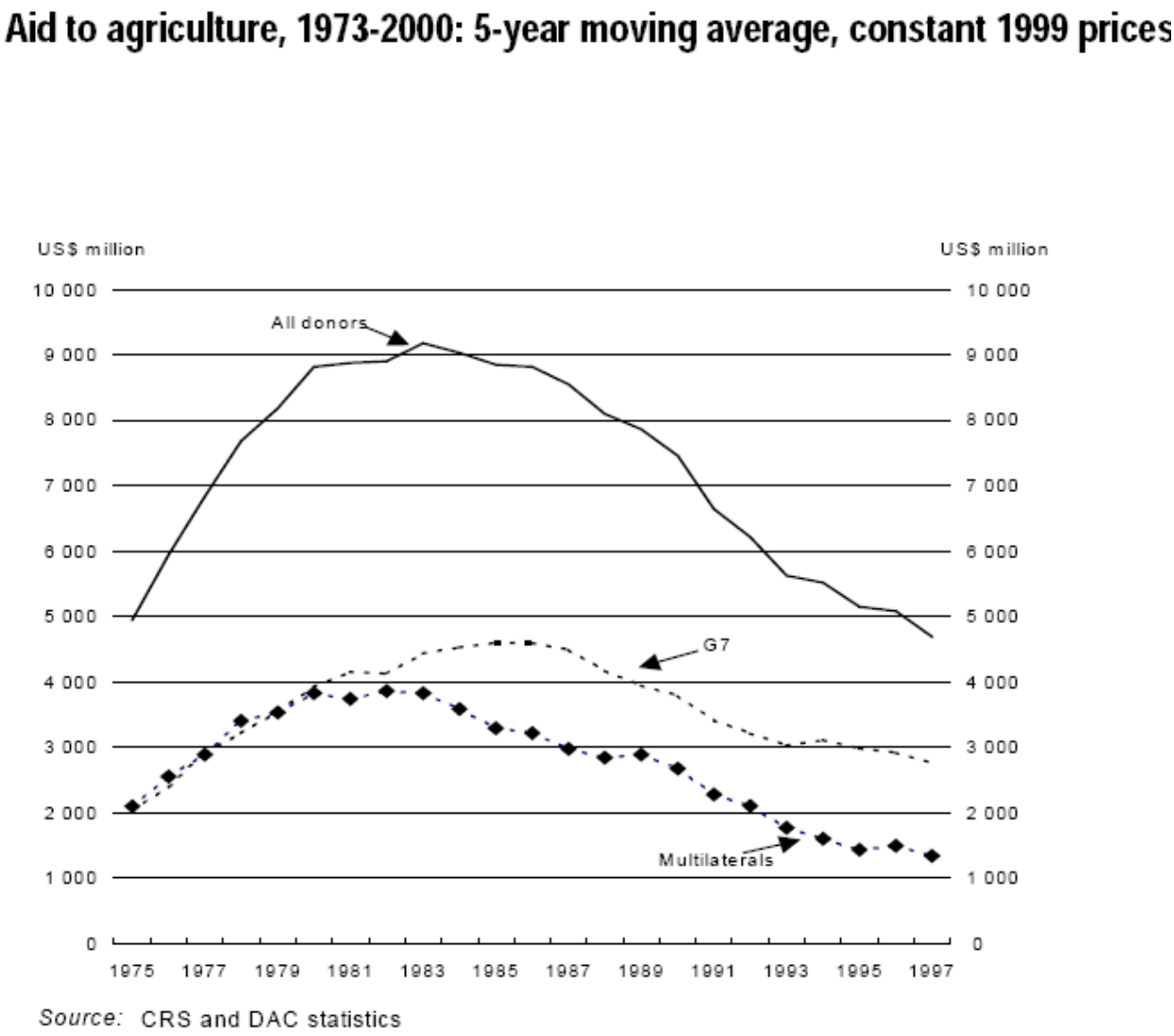
[55] Before 1997 there had traditionally been a generalized PDS that was not very effective in reaching the poor. Programme Evaluation Organisation. 2005. "Performance Evaluation of Targeted Public Distribution System (TPDS)," Planning Commission, Government of India, New Delhi.

[56] Ibid

[57] For example, the error of exclusion (i.e. BPL households not able to access the grains at subsidized prices) represents 3.2 percent of households in Andhra Pradesh and 47.29 percent in Assam. The inclusion error (i.e. APL households accessing grains at subsidized prices) represents 5.22 percent of households in Rajasthan and 49.65 percent in Tamil Nadu.

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.

Figure 9: ODA for agriculture



Source: 'Aid to Agriculture', OECD, 2001

67. Long term productivity increases can take place through the use of superior inputs (fertilizers, improved seeds[58], and planting materials), adoption of better farming practices including those

[58] 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

related to water management and resource conservation (for which a strong extension system may be a necessary pre-condition), 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, the severity of the current crisis requires a quick increase in production.

68. It may therefore be necessary to institute targeted, fiscally responsible subsidies with a well defined exit strategy to encourage the adoption of critical inputs by small holder farmers while measures to facilitate their access to markets[59] are being put into place. As the experience of Malawi shows, such subsidies can have dramatic effects where yields have been low to start with. At the same time, the Malawi program does not have a well defined, politically feasible exit strategy, and its ballooning cost is already straining the budget. If this is not addressed, there is a possibility that it, too, will go the way of the subsidies that were popular in Africa in the 1960s and 1970s, but then had to be ended in 1980s and 1990s.

69. It is important that there be further research on the design of implementable, targeted, limited duration input subsidy programs. The matter is all the more urgent as the current crisis has generated pressure to re-introduce input subsidies, and it is vital that the earlier experience with them be used to guide us in the most constructive way possible.

70. One way in which small farm productivity can be boosted, and the benefits of higher market prices be passed on, at least partially, to small formers, is 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 would appear to be important to determining the net balance of costs and benefits in the producer country. On the one hand, it would appear to introduce yield enhancing methods and inputs and offer farmers a price floor that could be particularly advantageous during a production glut. On the other hand, 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 lowered volumes coming into the spot markets, leading to increased volatility. Further study is required to identify best practices among such innovative captive farming systems, where production externalities take place in territories outside the jurisdiction of consumer countries.

Conflict and post-conflict countries

71. As discussed earlier, these countries present special challenges. Special attention must be paid to addressing the immediate and long term needs, which may be helped by the traditionally heavy presence of donors and NGOs in these settings, and the associated funding, institutional and logistical mechanisms[60]. It is possible, for instance, to envisage 'augmented' Disarmament, Demobilization and Reintegration (DDR) programs that might be used to provide additional resources and services to the neediest communities. Multi-Donor Trust Funds may also constitute readily-available vehicles to channel additional resources.

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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.

[59] 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 here 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.

[60] The Red Cross, for instance, will triple in 2008 its funding to programs dedicated to conflict-affected countries and populations including Internally Displaced People (IDPs) in collaboration with the World Food Programme, and will also "closely monitor the possible humanitarian impact of food-related violence on vulnerable people" (http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/annual-report-briefing-270508).

Effective regional/global cooperation on public goods

72. The policy responses discussed so far are the within the province of individual governments, and can be expected to deliver the immediate benefits that will motivate investment in them. However, there would appear to be at least four areas where a more effective response would be at a regional/global level, and might involve the cooperation of governments with each other, as well as with CSOs such as foundations and the private sector. One of these is in the research and development of improved crop varieties and practices, along with ways to transfer the results to the field as quickly and affordably as possible[61]. A second is that a similar effort needs to be made to develop instruments for crop insurance that will be accessible even to small farmers. Both of these initiatives must also be guided by the impending changes that are expected due to climate change.

73. A third area where a regional approach might be efficient is in the development of monitoring, prediction and early warning systems. Such systems already exist for seasonal crop predictions – these need to be embedded in more complete models that are related to other vulnerability parameters so as to generate useful predictions for policy planning. A fourth area is for development of a balanced approach to biofuels policy that weighs the longer term harm from aggravated effects of climate change against the immediate responses.

UNDP's role in the food crisis

74. The response of international agencies to the food crisis is rooted in the Comprehensive Framework for Action (CFA) prepared by the High Level Task Force (HLTF) headed by the Secretary General, and consisting of relevant UN agencies and the Bretton Woods Institutions[62]. This is a plan of action, laying out a menu of policy options that can be used to fashion country specific strategies. While an accurate global estimate of the finances needed to implement the CFA is not yet available, preliminary estimates range from USD 25 billion to USD 40 billion a year, with about a third being required for the immediate requirements of food assistance,

[61] An African success story relates to the recovery of cassava production. Cassava production in Uganda, and much of Africa was nearly wiped out in the last 10 years by the cassava mosaic virus. In partnership with the international agricultural research centres, in particular the International Institute of Tropical Agriculture, Uganda and Nigeria pioneered the production of resistant material. The Ugandan government then invested in programs in districts and sub-counties to multiply the materials. This material is now being taken up by neighbouring countries where the problem is also serious. Similar efforts need to be extended to other crops and livestock. Key to this is increasing funding for agricultural research and extension. There are several emerging funding opportunities, and an important one is the private foundation and philanthropy. For examples, the Bill and Melinda Gates Foundation in partnership with Rockefeller Foundation recently made significant funding (150 million USD) towards improving seed supply systems in Africa through training and strengthening national agricultural research systems.

[62] HLTF participation has included: Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD); International Monetary Fund (IMF); United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (OHRLLS); United Nations Conference on Trade and Development (UNCTAD); United Nations Development Programme (UNDP); United Nations Environment Programme (UNEP); Office of the United Nations High Commissioner for Refugees (UNHCR); United Nations Children's Fund (UNICEF); World Food Programme (WFP); World Health Organization (WHO); World Bank; World Trade Organization (WTO); Department of Economic and Social Affairs (DESA); Department of Political Affairs (DPA); Department of Public Information (DPI); Department of Peacekeeping Operations (DPKO); the Special Adviser on Millennium Development Goals (MDGs); and the Organisation for Economic Co-operation and Development (OECD).

agricultural inputs, and budgetary and balance of payments support, and the rest for building longer term resilience and food and nutritional security.[63]

75. At headquarters, UNDP has been involved in the HLT, the Senior Steering Committee to the Task Force and the Comprehensive Framework of Action (CFA). At the country level UNDP can play a major role in implementing the CFA by working with partner agencies, the government and NGOs to conduct assessments[64], develop coordinated, comprehensive plans of action, and then work with them to secure resources, and ensure effective implementation and monitoring. In some regions, it is working with the World Bank to fund rapid needs assessments. It has also assisted in mobilizing resources in Niger and joined with FAO in a special campaign to eliminate hunger under RCC Colombo. In Jordan, a net food and oil importing country with scarce land and water resources, UNDP is working with the government and UN partners on a comprehensive program for food security that is based on improving the procurement and management of reserves, enhancing the income of small farmers, and improving targeted safety nets for the most vulnerable.

76. The long neglect of agriculture has led to a decline in those capacities that are now crucial to delivering results. UNDP could play a useful role in many of these areas. For example, UNDP could take the lead in building the capacity of agricultural extension services as part of strengthening the links in the chain between proving agricultural technologies in the laboratory and their adoption in the field. UNDP can also foster the growth of the private sector in agriculture, especially in products and supply chains that facilitate the participation of small farmers.

77. Regional centers and headquarters have a special role to play in the CFA program, especially in supporting needs assessments, monitoring and evaluation. In addition, their research may also contribute to emerging policy issues such as the design of input subsidies, trade-offs to using GMO crops for productivity gains, measuring the gender and social dimensions of vulnerability, assessing the environmental effect of increased production to meet demand and others.

V. Conclusion

78. This paper has presented a quick survey of the principal features of the global price rise in food, a selection of country experience, and an analysis of several of the most important policy options. These, hopefully, will be of use to UNDP in assessing the severity of the crisis in individual countries, and helping design appropriate policy responses.

79. At the same time, it has highlighted several areas needing priority policy research and development – subsidy design, farming contracts both within and across countries, identification of the trade-offs to using GMO crops for productivity gains and climate change impacts on production, but also the environmental impact of increasing production to meet the growing demand – and these should be taken up on priority basis, leading ultimately to policy briefs and knowledge dissemination.

[63] CFA document, July 2008, page 43.

[64] An important part of developing a country's response is to accurately identify the losers, the gainers and the most vulnerable from the higher prices, and to quantify the effects of proposed policy measures across these groups. UNDP should play an important role in performing this analysis as part of its country advisory work, and to advocate for strongly pro-poor supply responses.

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