



# The Impact of Food Price Increases on the Poor and Vulnerable and Policy Responses in Cambodia

## Introduction

Not many people might notice that food prices in Cambodia had been creeping since mid-2007. Between June 2006 to June 2007, food prices increased roughly by 12 percent. Gradual rise of food prices had no sign of slowing down but the mid-2008 was the time when food prices suddenly shot up and peaked, marking the period as food crisis. By June 2008 food prices were up by around 45 percent with rice price alone increasing by about 97 percent. The price shock slowly subsided amid the first throes of the crisis, but prices had barely bottomed before they started rising again in the second quarter of 2009. As of May 2011, the food price index had topped its peak of 2008 (June) by over 4 percent. Such a trend raises serious concern over potential negative impacts on poor Cambodians.

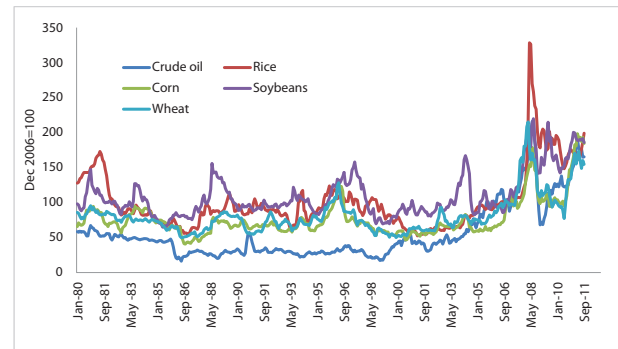
This brief sheds light to some of the issues around the food price hikes in 2008 and in 2011 including their causes, impact, and policy responses by the government. The policy brief concludes by raising some of the prioritised policy options to tackle as well as prevent the food price increases in Cambodia. Most of the content of this policy brief are drawn from a paper by Lun and Tong (2012)<sup>1</sup> on the rapid assessment of the impact of food price increases on the poor and vulnerable in Cambodia.

## Causes

**Global Perspective:** The international prices of a wide range of food commodities increased significantly during the first half of 2008 (see Figure 1). A large number of studies have attempted to identify the causes of the price.

Some of them emphasise demand and supply factors, while other explanations address financial markets and exchange rates.

Figure 1: International Commodity Prices



Source: International Monetary Fund, International Financial Statistics online (<http://www.imf.org/external/data.htm>, accessed 14 November 2011)

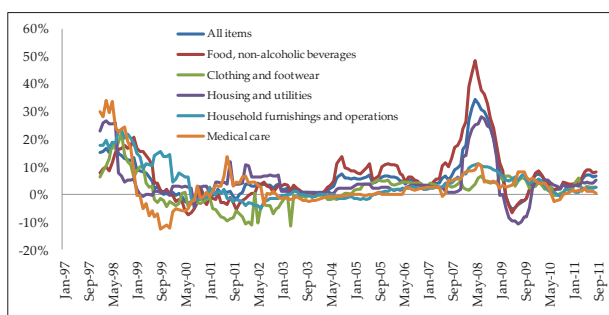
There are at least three demand-side explanations such as the growing world population combined with strong income growth in emerging economies, the increasing production of ethanol and bio-fuel requiring a large quantity of agricultural commodities as inputs and precautionary actions for the 2008 food price hike. Supply-side explanations include declining stocks of food, slowing productivity, adverse weather, high fuel prices and export restrictions.

**Cambodian Perspective:** The consumer price index indicates a remarkable food price rise since mid-2007. The price of food and non-alcoholic beverages, which registered lower than other items over 1997–2007, went up considerably from June 2007 to September 2008. Almost at the same time, the price of housing and utilities also rose significantly, mainly due to the real estate boom supported by the influx of capital. However, the rate of growth in food and non-alcoholic beverage prices was the most rapid, reaching its month-on-month record high of 48.6 percent in May

<sup>1</sup> The full report is available on the website of the the NGO Forum on Cambodia (NGOF) (<http://www.ngoforum.org.kh>) and the Cambodia Development Resource Institute (CDRI) (<http://www.cdri.org.kh>).

2008. The food and non-alcoholic beverages price index has continued to increase and has reached its highest level since the inception of the index in 1997, but its growth rate has been relatively stable compared to 2004–06. Food and non-alcoholic beverage prices started to accelerate again in the four months to September 2011—an average of 8.4 percent per month, or 4.2 percentage points higher than in January to April 2011. The food and non-alcoholic beverages price index is much higher than the overall price index, indicating that food price rises are the primary cause of recent inflation.

**Figure 2: Monthly Inflation, 1998-2011**



Source: CDRI Commodity Price Survey (1998-2012)

The commodity prices moved slowly upwards from 1998 to the end of 2006. In early 2007, the prices of rice, fish and pork started a steady rise. About a year later, the prices of beef and gasoline also picked up. By mid-2008, all commodity prices reached record highs. The cause of higher prices varies with individual commodities, but significantly higher oil prices and the growth of food demand combined with dietary transition towards higher quality food and the use of food grains to produce ethanol as a fuel across the globe have been the main drivers in Cambodia. Moreover, we also find that not only external factors such as rising international commodity and energy prices and a weak US dollar, but also other internal factors such as exceptionally high domestic demand and inflationary expectations are the drivers behind the domestic food price increases in 2008.

## Impact

To analyze the impact of food price increases on the poor, a welfare impact model proposed by Deaton (1989)<sup>2</sup> is adapted and employed. The model determines households who are net food buyers and net food sellers. Net food sellers benefit from food price increases, while net food buyers suffer and face welfare loss. Households are categorised as net food sellers (buyers) if their total food production ratio is greater (smaller) than total food consumption ratio<sup>3</sup>. If a household produces more than it consumes (net food seller), a production surplus and a higher price would make this household better off. This is not the case, however, for net food buyer households. The model calculates welfare gain (loss) among net food seller (buyer) households. The poverty impact can subsequently be estimated from the welfare change and the change in food prices.

Data on food consumption and production were collected from 420 households in eight villages (five of which are rural) across six provinces namely Battambang, Kampong Chhnang, Kampong Thom, Kampong Speu, Siem Reap, and Phnom Penh. Throughout the analysis, food is classified into rice and other food, the latter including non-rice crops, livestock, poultry and fish and fresh-water animals.

Initial findings from the household survey reveal that about 68 percent of rural households in the sample are rice producers with an average rice productivity of two tons per hectare. 72 percent of households in the rural villages own farmland, each of which possesses on average less than one hectare. The mean value of rice production per rural household is about 2 million riels (about USD500) per year. The value of other food production per rural household, in average, is higher, about 4 million riels per year.

<sup>2</sup> Deaton, Angus (1989), “Rice Prices and Income Distribution in Thailand: A Non-parametric Analysis”, *Economic Journal* 99(395): 1–37.

<sup>3</sup> Food production (consumption) ratio is the ratio of total food production (consumption) to total consumption (production).

One of the three urban villages records high value of rice production, about 2 million riels per year, provided that 92 percent of household in this village are rice producers with rice productivity of as high as 4 tons per hectare, the figure which is even higher than the rural average. The value of other food production in this village is also high, about 6.5 million riels per year. The other two urban villages are not rice producers with low value of other food production.

The share of rice consumption in total food expenditure is higher in rural areas—32 percent, compared to around 22 percent in urban areas. This indicates that urban villages spend more on non-rice food. The average total expenditure per capita in urban areas is 50 percent higher than in rural areas.

**Net Food Sellers vs Net Food Buyers:** Only one out of the five rural villages is net rice seller, given the fact that the other four rural villages record a very low rice production capacity. In other words, the value of rice production is lower than that of rice consumption in those villages. Likewise, only one urban village is net rice seller because of the high rice production capacity in this village. None of the eight villages is net food seller. Logically, if food sales cannot cover food purchases, the household is a net food buyer. Some households are net rice sellers but perhaps not net food sellers if the proceeds from selling rice cannot compensate for other food expenditure.

**Welfare Impact:** The impact of the rising food price is actual and decomposed into two periods: average year-on-year inflation between 2007 and 2008, and average year-on-year inflation between 2009 and 2011 (from January to September). The results are discussed separately for rice and overall food including rice.

Rice price inflation was high during the food crisis. The year-on-year average of rice inflation between 2007 and 2008 is estimated to have been around 73 percent. However, the figure

for 2009 to 2011 (first nine months) is only 3 percent. As shown in Table 1, welfare loss during the food crisis in 2008 is estimated to be around 2.9 percent for rural villages and more than 3.4 percent for urban villages (Koh Vien excluded). The overall welfare loss is 3.5 percent during the food crisis and a mere 0.1 percent in recent rice price increases.

**Table 1: Welfare Impact of Rising Rice Prices**

Area	Change in Rice Prices	
	73% (2007-2008)	3% (2009-2011)
Rural	-2.96	-0.12
Urban	-3.36	-0.13
Cambodia	-3.50	-0.12

Source: Lun Pide & Tong Kimsun (2012)

Food price inflation was 32 percent during the crisis (average year-on-year increase between 2006 and 2008) and around 10 percent between 2009 and 2011 (January to September). The welfare losses are estimated to have been around 9 percent for rural and 10 percent for urban villages during the food crisis. Welfare losses due to price increases between 2009 and September 2011 were less at around 3 percent (Table 2).

**Table 2: Welfare Impact of Rising Food Prices**

Area	Change in Rice Prices	
	32% (2007-2008)	10% (2009-2011)
Rural	-9.18	-2.86
Urban	-9.80	-3.06
Cambodia	-9.70	-2.93

Source: Lun Pide & Tong Kimsun (2012)

**Poverty Impact:** The simplest way to characterize the effects is to observe total household consumption before and after the food price increases. Here, real income (welfare) changes due to food price increases are used to compute new consumption and then estimate the poverty effects. As show in Table 3, during the food price rise in 2008, the

change in poverty headcount is quite revealing, an almost 6 percentage point increase during 2008. These findings are consistent with ADB (2011), which suggests that the overall poverty headcount in Cambodia would increase by 6.8 percentage points if food prices jump 30 percent. Our findings (Table 4) are also consistent with Ivanic and Martin (2008)<sup>4</sup>, who conclude that a 10 percent increase in rice price would raise the national poverty rate by 0.5 percentage points.

**Table 3: Poverty Impact (overall food)**

Area	Poverty Headcount (%)		Change in Poverty (% point)
	Before the Crisis	After the Crisis	
Rural	6.3	9.8	+3.5
Urban	19.2	25.2	+6.0
Cambodi	15.6	21.4	+5.8

Source: Lun Pide & Tong Kimsun (2012)

**Table 4: Poverty Impact (rice)**

Area	Poverty Headcount (%)		Change in Poverty (% point)
	Before the Crisis	After the Crisis	
Rural	6.3	8.0	+1.7
Urban	19.2	23.5	+4.3
Cambodi	15.6	18.6	+3.0

Source: Lun Pide & Tong Kimsun (2012)

### Policy Responses to Food Price Increases in Cambodia

Cambodia, like other countries in the region, introduced various direct and indirect measures to reduce adverse impacts on the economy during the food crisis in 2008. The government also established a price monitoring group to closely monitor the issue. Those policies (short-term and medium term) and their impact can be summarized as follows:

#### Short-term (immediate) responses

- Temporary ban on rice exports
- Released 300 tonnes of rice to the market at below market price
- Released USD12 million credits to Rural Development Bank to increase rice stocks
- Zero tariff on agricultural inputs
- Removed ban on pork imports
- Decreased duties on food imports to zero
- Fixed reference price for levying taxes
- Subsidised electricity tariff
- Monitored fuel distributors to prevent speculation
- Provided high-yielding seeds to small farmers
- Sold seeds and fertilisers at subsidised prices to selected farmers
- Doubled bank minimum reserve requirement from 8 to 16 percent
- Introduced 15 percent cap on real estate lending
- Increased minimum capital requirement for commercial banks

#### Medium-term responses

- No taxes on agricultural inputs, and increase taxes on luxury items (cars, alcohol and cosmetics)
- Increase agricultural productivity
- Increase irrigated land and land available for cultivation
- Grain storage in rural areas and at farm/provincial/ national level
- Enhance production through increased irrigation of the second rice crop
- Reduce post harvest losses
- Improve information database to complement policy intervention

<sup>4</sup> Ivanic, Maros & Will Martin (2008), “Implications of High Global Food Prices for Poverty in Low income Countries”, *Agricultural Economics* 39 (1), 405–416.

Policy interventions to control aggregate demand during the crisis were effective in curbing inflation, though the magnitude of the impact has yet to be investigated empirically. The government also realised that regulatory tightening to control aggregate demand was not the only approach needed to keep inflation at bay. Hence, a turn to fiscal tightening was also used. Fiscal policy is also believed to affect aggregate demand. In Cambodia, the fiscal policy intervention did not raise taxes but just improved revenue collection and the monitoring of needless current administrative expenditure. Although there was a current budget surplus, the impact of the fiscal tightening on inflation was minimal.

Macro responses were less effective in addressing the soaring food prices caused by external forces – rising oil prices, a weak US dollar and rising international food prices. Here, the only immediate measure was to ban exports and release stocks of agricultural commodities. In Cambodia, the selling of rice at subsidised prices during the peak period drove down the domestic price, but the impact on the world rice market was not favourable. Restricting exports only decreased world food supply and consequently contributed to further increases in prices.

The government performed well by removing restrictions (imposed before the crisis to control the spread of disease) on pork imports from neighbouring countries. Lifting the ban dampened not only the pork price but also those of other foods like fish and beef due to substitution effects. Moreover, although the impacts were debatable, the government's subsidy of fuel and electricity was perhaps the only way to cool prices and reduce the cost of living. A fixed reference price for fuel tax avoided increasing taxes with the fluctuation of fuel prices in international markets. In addition, zero taxes on agricultural inputs, free high-yielding seeds and selling seeds and fertilisers at subsidised prices all proved essential.

In Cambodia, though food prices began to surge again from the second quarter of 2009, there have been no immediate responses by the government like the ones in 2008. This might be because the government has been able to keep overall inflation under control (below 10 percent) irrespective of food prices. Since the crisis, however, the government has put more emphasis on long-term policy to promote agriculture: the zero tariff on agricultural inputs is still in effect and a new rice policy has been initiated to increase production and exports, allocating USD300 million over two years to improve rice irrigation systems and to expand food reserves (ADB 2011).<sup>5</sup> Although this broad policy does not aim to address food prices directly, it provides incentives for farmers to increase production and thus increase the domestic and world food supply, hence reducing the risk of food crisis and food insecurity.

The food crisis in 2008 had also prompted ASEAN countries to respond. Rice exporting countries including Vietnam and Thailand banned rice exports, while rice importing countries like the Philippines substantially increased its rice reserves. Selling food stock at subsidized prices was also observed in Vietnam, the Philippines and Thailand. In Thailand, social safety net programmes were implemented, yet the problem rested on the inaccurate identification of poor target groups.

Lessons from 2008 food crisis have prompted ASEAN governments to put issue of food security and self-sufficiency a priority especially among food importer countries. The Philippines, for instance have gradually increased rice stock to some 3.4 million tons. Promotion of agriculture has been put on high agenda with Indonesia to provide cash incentive and tax exemption for production supplies, and Vietnam to expand the infrastructure including storage facilities.

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<sup>5</sup> Asian Development Bank (2011), *Global Food Price Inflation in Developing Asia* (Manila: ADB).

## **Policy Interventions**

Policies to address food price shocks range from short to medium to long term. For short-term responses, the government needs to maintain social safety nets, which include conditional cash transfers, food-for-work and food stamps. Without such immediate responses, vulnerable groups, including urban poor and landless households, could face social and economic collapse, malnutrition and deep poverty. Target groups should be the most vulnerable and poorest. Tools to identify those groups such as the Identification of Poor Households Targeting Programme of the Ministry of Planning should be expanded nationwide.

Medium or long-term responses need to be considered alongside short term policy interventions. One key message is that the country needs to stay focused on promoting agriculture. It is good news that the government has reasserted its commitment to promoting rice production and making Cambodia one of the biggest rice exporters in the world by 2015. The effort is important, not just to spur economic growth, but also to ensure food self-sufficiency, reduce the risk of food insecurity and stabilise food prices. Our recommendation is ambitious: to go beyond rice to embrace more foods. While rice is the main focus, Cambodia's endowments of land and labour would allow it to strengthen other food crops as well.