



CAMBODIA FOOD SECURITY AND NUTRITION QUARTERLY BULLETIN

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HIGHLIGHTS

The wet and dry season rice harvests have increased by over 9.4% and 7.3% compared to 2009/10. Hence, current rice prices have decreased by 7% compared to February 2010 and by 11% since October 2010, enhancing purchasing power and food security status. However, in February 2011, food and rice prices are significantly above pre-2008 food price crisis levels, which may be key factor in the stagnation of the improvement in the nutritional status of children.

Environmental Conditions

Rainfall amounts received during December 2010 to February 2011 were lower than the historical average. The lower rainfall during this time has resulted in low river water levels in both the Mekong and Tonle Sap rivers. However, rainfall increased in March and both rainfall and river water levels are similar to historical averages.

Food Availability

Preliminary estimates for the 2010/11 wet and dry season rice harvests indicate a successful rice harvest, exceeding the previous year's rice production figures, which was then a historical high. This is due to increases in both yield and harvested areas. Rice fields destroyed are significantly lower than the 2009/10 season.

Food Prices

Rice prices in Cambodia have continually decreased since the main wet season rice harvest began in November 2010. Although food and rice prices in Cambodia have not rapidly increased since the food price crisis of 2007/8,

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both food and rice prices continue to stay 20-25% and 30-45% higher, respectively, than levels before the 2008 food price crisis, even after deflating for inflation.

Health and Nutrition

Preliminary results of the CDHS 2010, once validated, provide evidence that improvement in the nutritional status of children has stagnated from 2008. Child malnutrition is common throughout the country, but the latest results show for the first time that acute malnutrition is higher in urban areas than rural areas. At 10.9%, the level of acute malnutrition is classified as an Acute Food and Livelihood Crisis by the Integrated Food Security Phase Classification. Chronic malnutrition remains widespread, with 40% of children under 5 experiencing stunted growth.

The Cambodia Food Security and Nutrition Quarterly Bulletin aims to provide decision makers with a regular overview of trends and emerging threats relating to food and nutrition security in Cambodia. It is a collaborative effort between the **Council for Agricultural and Rural Development (CARD)**, the **Ministry of Agriculture, Forestry and Fisheries (MAFF)**, the **Ministry of Water Resource and Meteorology (MoWRAM)**, the **Ministry of Planning (MoP)**, the **Ministry of Health (MoH)** and the **National Committee for Disaster Management (NCDM)**, with technical and financial support from UNICEF, the World Food Programme, the EC-FAO Food Security Programme and the World Health Organization.



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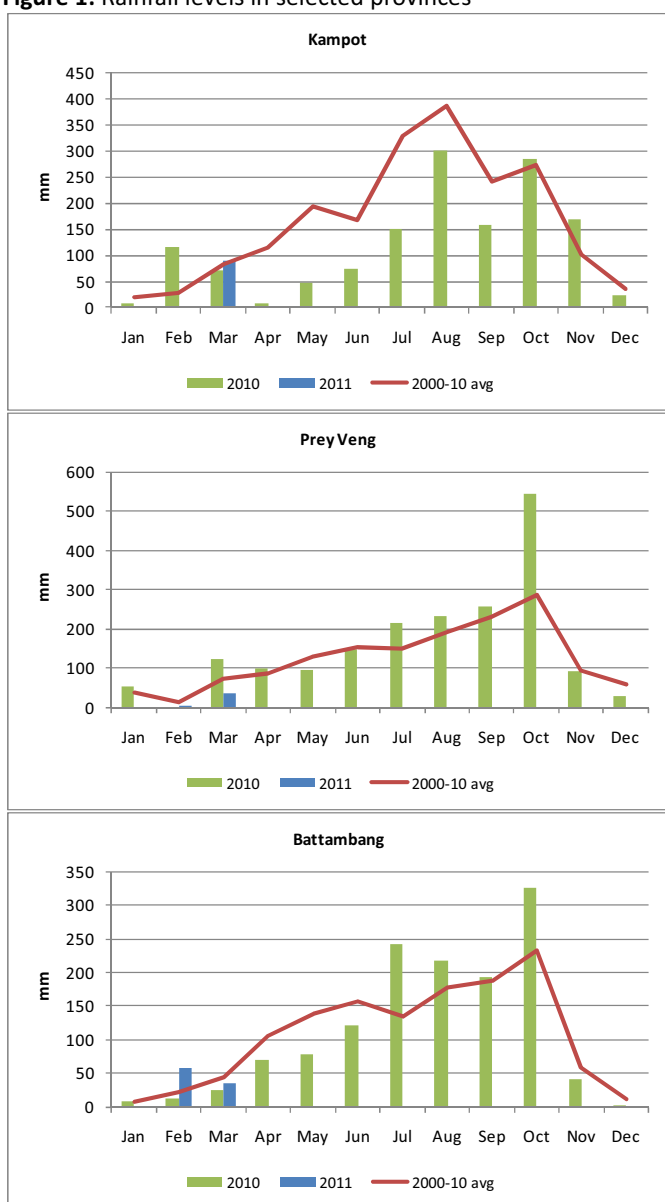
This bulletin conducts secondary analysis of government administrative data and publicly available data on a list of standard indicators – from regularly collected government data – agreed upon in the terms of reference of the Food Security and Nutrition Data Analysis Team.

ENVIRONMENTAL CONDITIONS AND HAZARDS

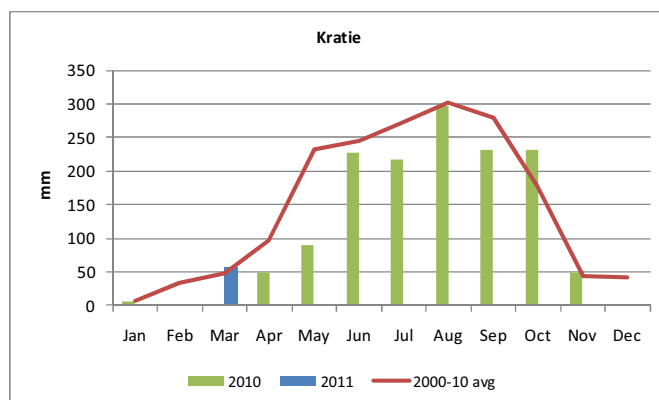
Rainfall

Rainfall patterns in four selected provinces¹ representing the main agro-ecological zones are reported in Figure 1. The cumulative rainfall in Cambodia from December 2010 to February 2011 was 56.8% below the 2000-10 average for the same time period, potentially affecting the dry season rice harvest and vegetable farming. However, in March 2011 rainfall picked up and rainfall levels were similar to historical levels.

Figure 1: Rainfall levels in selected provinces



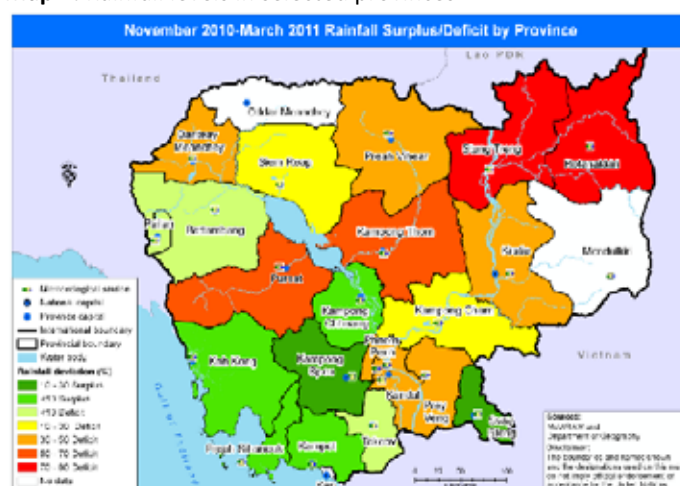
¹ Kampot is in the Coastal zone, Prey Veng in Plains zone, Battambang n Tonle Sap zone, Kratie in Plateau/Mountain zone



Source: Ministry of Water Resources and Meteorology

The differential of the current dry season's rainfall (November 2010 to March 2011) to the 10 year historical rainfall levels during the same months is displayed below in Map 1.

Map 1: Rainfall levels in selected provinces

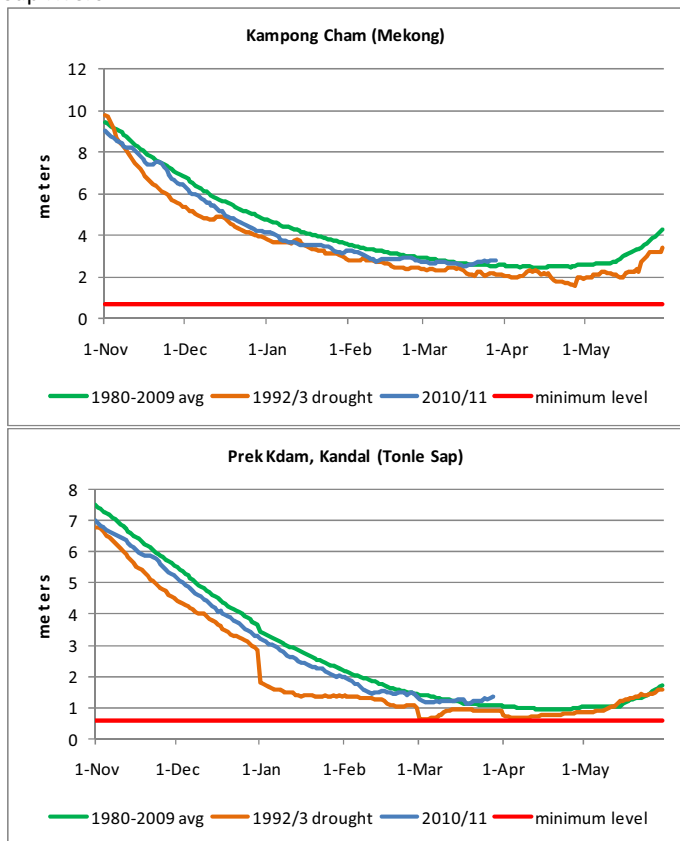


River water levels

Water levels in both the Mekong and Tonle Sap rivers, have been significantly lower than the 30-year historical average throughout most of the current dry season (i.e. since November 2010). The Mekong River water level, measured by the station in Kampong Cham, was comparable to levels during the 1992/3 drought (Figure 2), potentially limiting fish production and migration.

However, in March 2011, water levels in both rivers slightly exceeded the historical average. This is in line with rainfall levels being low during the beginning of the dry season, but having picked up in March 2011.

Figure 2: Water levels in selected stations in Mekong and Tonle Sap rivers



Source: Mekong River Commission

FOOD AVAILABILITY

Rice Production

The wet season rice harvest in 2010/11 was exceptionally good, increasing by 9.4% from 2009/10 and 18.6% from the 2006-10 average². The dry season rice harvest in 2010/11 was also good, increasing by 7.3% from 2009/10 and 19.5% from the 2006-10 average.

The high rice production figures can be attributed to increases in both harvested areas and yield (Figure 3). The total wet season harvested areas were 2.37 million hectares in 2010/11, a 4.0% increase from 2.28 million hectares in 2009/10. The wet season yield increased from 2.62 mt/ha in 2009/10 to 2.76 mt/ha in 2010/11, an increase of 5.2%. The increase in the dry season harvest was primarily due to the 5.4% increase in harvested areas from 0.38 million hectares in 2009/10 to 0.40 million hectares in 2010/11. The dry season yield increased by 1.8% to 4.2 mt/ha.

Prey Veng, Takeo, Battambang, Kampong Cham and Banteay Meanchey (in that order) had the five highest rice production figures in 2010/11 (wet and dry season harvests). The rice

² Based on estimations from MAFF. Figures may slightly change based on MAFF's 2010/11 crop calendar annual report.

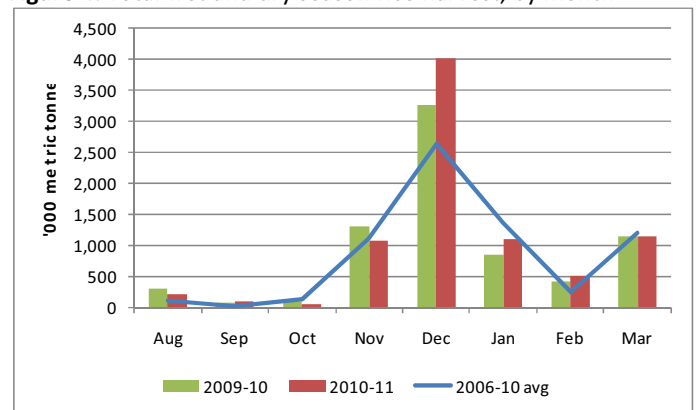
production from the five provinces comprised over 50% of Cambodia total rice production in 2010/11.

Figure 3: Trends in harvested area, yield and production



Source: Agricultural Statistics Office, MAFF

Figure 4: Total wet and dry season rice harvest, by month



Source: Agricultural Statistics Office, MAFF

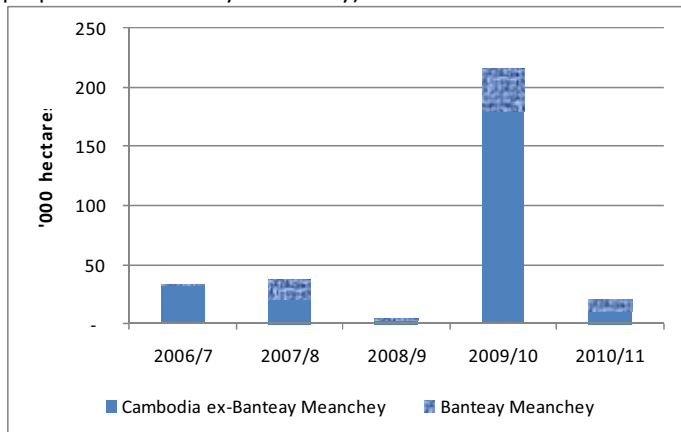
Area destroyed

In the 2010/11 season, 20,661 hectares of rice fields were destroyed, of which 99.7% were from wet season rice fields. 84% of destroyed areas resulted from floods, 14.4% from drought and 1.6% from insect infestation. 10.1% of destroyed rice fields were replanted on³.

³ (Cultivated area) – (destroyed area) + (replanted area) = harvested area

Despite the flash flooding in October 2010, the area of destroyed rice fields in 2010/11 was less than one-tenth of 2009/10 and significantly below the 2006-09 average (Figure 5). It is noteworthy that in 2010/11, Banteay Meanchey was the province with the most rice fields destroyed – 10,336 hectares – amounting to 50% of all destroyed rice fields in Cambodia.

Figure 5: Wet and dry season destroyed⁴ rice fields (with proportion of Banteay Meanchey)



Source: Agricultural Statistics Office, MAFF

FOOD PRICES⁵

International food and rice prices

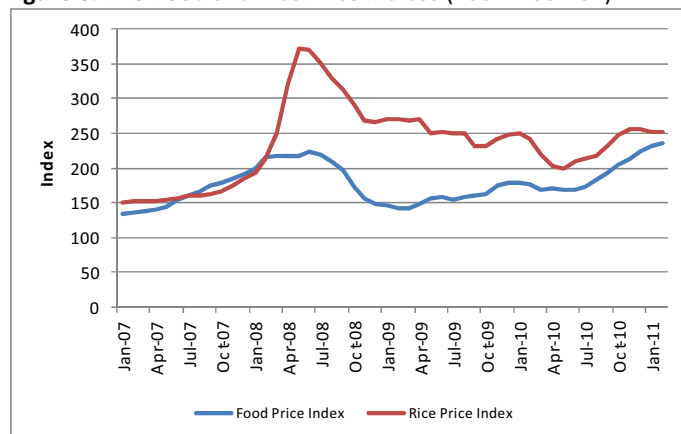
The FAO (global) Food Price Index⁶ has increased since June 2010 and was the highest (in both real and nominal terms) since the index has been monitored in 1990 and even higher than the peak during the food price crisis of 2007/8. In February 2011, the index rose by 34.1% year-on-year and by 2.3% month-on-month (Figure 6).

In contrast, the FAO All Rice Price Index⁷, moderated by relatively abundant global rice supplies, was relatively stable, increasing by 4.1% year-on-year and decreasing by 0.4% month-on-month in February 2011. Stable rice prices in international markets were in contrast to the sharp rises observed in wheat and maize prices. In February 2011, the benchmark US maize price (US No. 2, Yellow) and US wheat price (US No. 2 Hard Red winter) increased by 77% and 75% year-on-year, respectively.

Although global rice prices are not nearly as high as its recent peak during the food price crisis of 2007/8, in February 2011

they were still significantly higher than pre-crisis levels – 68.7% higher than January 2007 even after deflating for inflation⁸.

Figure 6: FAO Food and Rice Price Indices (100 = 2002-04)



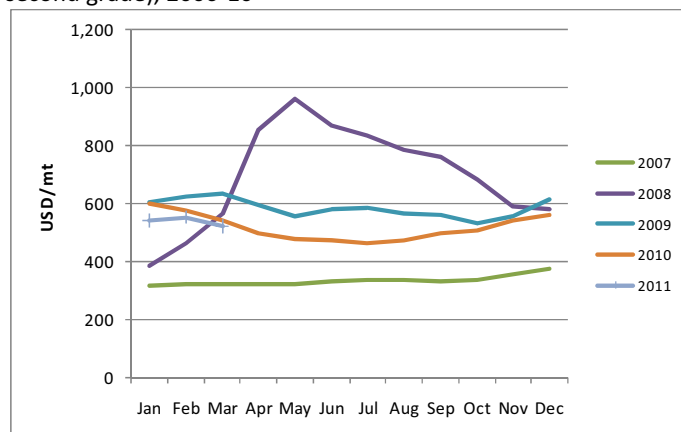
Source: FAO, <http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>

Regional rice prices

In March 2011, the f.o.b. price of Thai 100% grade-B white rice, the benchmark for Asia, was 523.8 USD/mt. The price decreased by 5.5% month-on-month, from 554.3 USD/mt in February, and decreased by 3.5% year-on-year (Figure 7).

Price trends in Thai rice in recent years resembled trends of the FAO Rice Price Index. Although prices were below the peak in May 2008, prices in February 2011 were still significantly above pre-crisis levels. Prices in February 2011 were 74.3% higher than compared to January 2007, even after deflating for inflation⁹.

Figure 7: Monthly wholesale price of Thai white rice (100% B second grade), 2006-10



Source: FAO, <http://www.fao.org/es/esc/prices/PricesServlet.jsp?lang=en>

Local Consumer Price Index and Food Price Index

In Cambodia, inflation, as measured by the year-on-year Consumer Price Index (CPI)¹⁰ slightly increased to 3.7% in

⁴ Destroyed from droughts, floods and insect infestation.

⁵ The daily wage of unskilled labour could be used to calculate the terms of trade for unskilled labour and rice, a proxy indicator for the food purchasing power of households. However, regular data collection and reporting of unskilled wages are not available.

⁶ The FAO Food Price Index is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of 5 commodity group price indices (i.e. meat, dairy, cereals, oils/fats, and sugar) weighted with the average export shares of each of the groups for 2002-2004. In total 55 commodity quotations are included in the overall index.

⁷ Based on 16 rice export quotations.

⁸ The Rice Price Index has been deflated using the World Bank Manufacturers Unit Value index (MUV) rebased from 1990=100 to 2002-04=100.

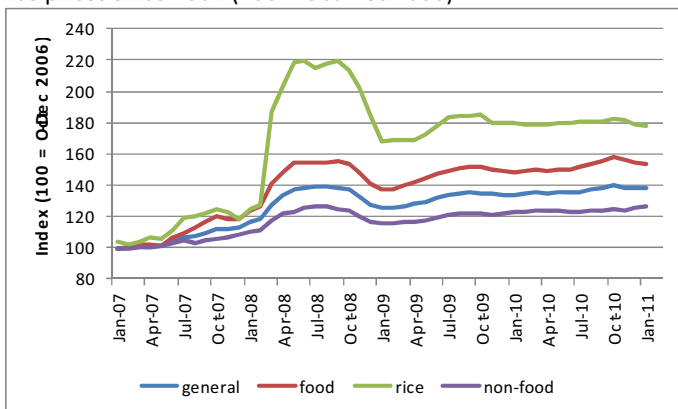
⁹ Price was deflated also using the MUV index.

¹⁰ The CPI is collected and reported by the National Institute of Statistics (NIS).

February 2011, but has been stable since decreasing from a high of 7.3% in February 2010.

The Food Price Index (FPI), which comprises around half of the CPI, was also stable, as the food inflation rate was 3.6% in December 2010 and January 2011, and 3.9% in February 2011. However, food prices have increased by 22% compared to non-food prices since October-December 2006. Food prices have been driving overall inflation (Figure 8).

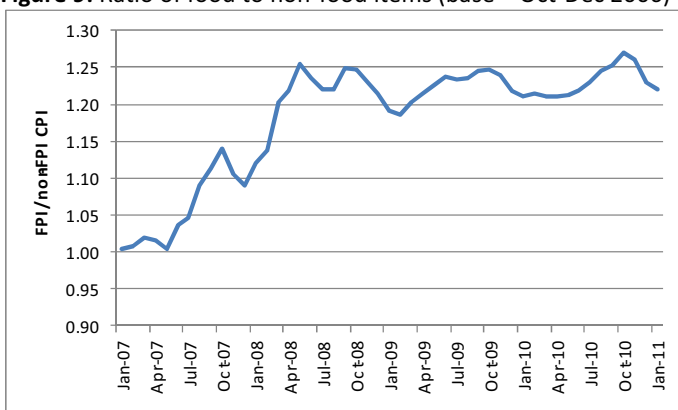
Figure 8: Relative change in consumer prices, food prices and rice prices since 2007 (100 = Oct-Dec 2006)



Source: National Institute of Statistics

The ratio of food prices to non-food prices¹¹ can be used as a proxy indicator for food purchasing power. When the ratio of food prices to non-food prices (FPI/non-food CPI) goes above 1, the cost of food is increasing relative to the prices of other goods in the typical consumer basket. This could indicate increasing difficulty in access to food, as food purchasing power decreases for households. In February 2011, the ratio of food prices to non-food prices in the CPI was 1.22, seeing no change from the previous month, but still 22 percentage points higher than prior to the food price crisis of 2008 when the ratio was close to 1 (Figure 9).

Figure 9: Ratio of food to non-food items (base = Oct-Dec 2006)



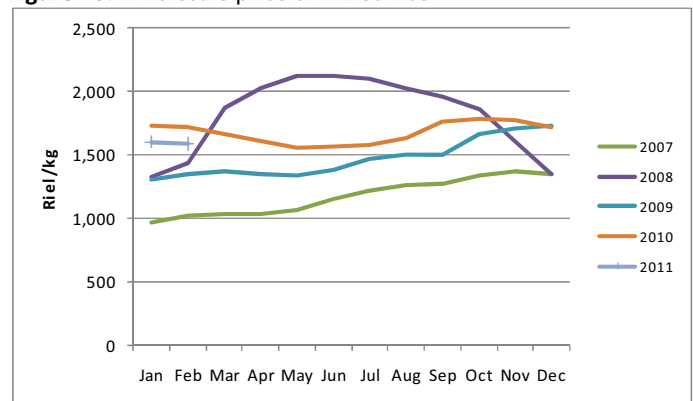
Source: National Institute of Statistics

¹¹ The ratio of food prices to non-food prices is calculated as (food and non-alcoholic beverages component of CPI) / (non-food component of CPI)

Local wholesale rice prices¹²

Price reports from the Ministry of Agriculture, Forestry and Fisheries (MAFF) show that nominal wholesale prices of mixed rice¹³ in Cambodia in February decreased by 7.4% year-on-year and were 10.9% lower than October 2010, immediately before the wet season rice harvest (Figure 10). The continued decrease of rice prices in February confirm seasonal rice price patterns where prices decrease after the start of the main wet season harvest and increase after the dry season harvest ends in March.

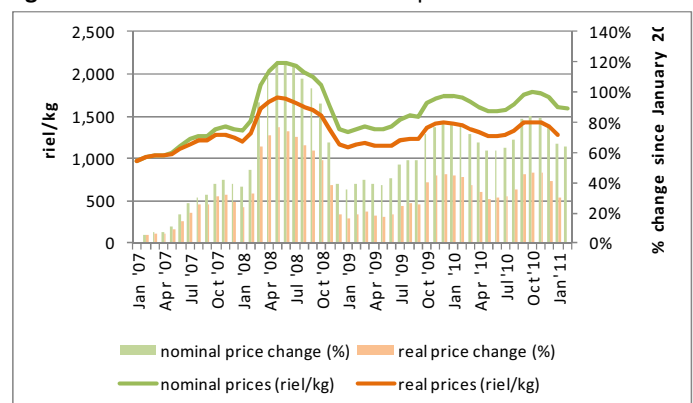
Figure 10: Wholesale price of mixed rice¹⁴



Source: Cambodia Agricultural Market Information Service, MAFF

Since the food price crisis in 2008, wholesale rice prices seem to have stabilized, following expected seasonal fluctuations since mid-2009. However, Figure 11 shows that although both nominal and real¹⁵ rice prices are much lower than the 2008 peak, prices are still significantly higher than pre-crisis levels. Rice prices are 30-45% higher than January 2007 prices, even after deflating for non-food inflation. This trend is in line with observations made above from international and regional rice prices, although to a lesser degree.

Figure 11: Nominal and real wholesale price of mixed rice



Source: National Institute of Statistics

¹² Data analysis on food expenditure data of CSES 2009 is expected to be available by the next issue of this bulletin.

¹³ Mixed rice is considered one of the lowest quality rice.

¹⁴ Wholesale rice prices are collected from the provincial center markets of the following provinces: Kampong Chhnang, Kampong Cham, Takeo, Siem Reap, Prey Veng, Phnom Penh, Kampot, Battambang, Banteay Meanchey.

¹⁵ Nominal prices have been deflated to real prices using the non-food CPI index due to the high weight allocated to food in the CPI.

Sustained high rice prices could lead to higher malnutrition, morbidity and mortality, especially for the vulnerable population in Cambodia who spend a higher proportion of their income on food and especially rice.

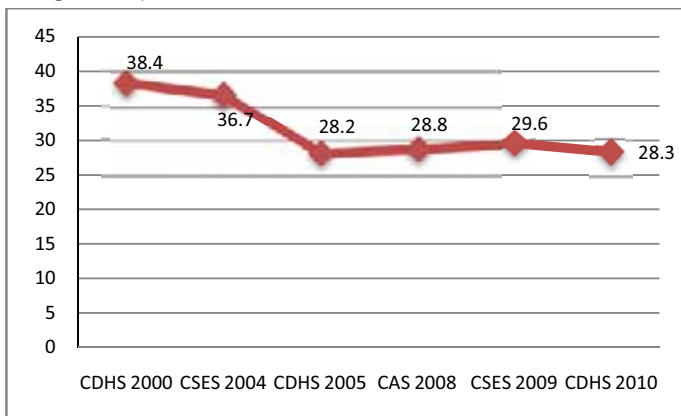
HEALTH AND NUTRITION¹⁶

Nutritional status of children - Anthropometric indicators

Preliminary results from the 2010 Cambodia Demographic and Health Survey (CDHS) provide the most up-to-date information on the nutritional status of children under 5 years of age. The CDHS is the third national survey carried out since the 2008 food price crisis and the information provided from multiple sources gives a very reliable picture of the situation.

Underweight (weight-for-age) is a composite indicator that includes children experiencing malnutrition in the form of stunted growth (short) and wasting (thin). Underweight is the easiest indicator to measure and thus the best indicator to use for trend analysis. There is now sufficient evidence that improvement in the nutritional status of children has halted, as seen by the flat slope in Figure 12. In 2010 28.3% of Cambodian children are underweight; this is 11 times higher than the percentage expected in a healthy population.

Figure 12: Percentage of under-5 children underweight (weight-for-age < -2SD) from 2000-2010 in Cambodia



Source: National Institute of Statistics

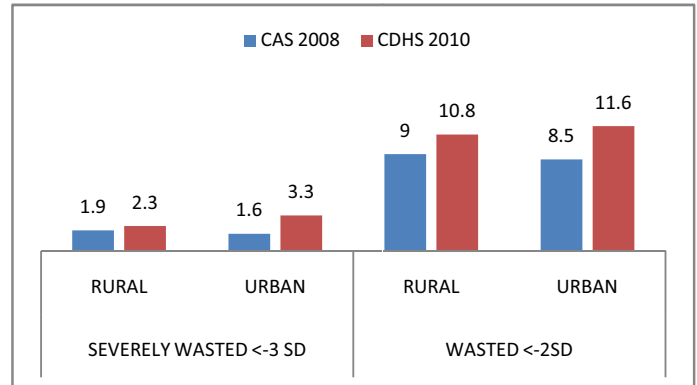
Wasting (weight-for-height) measures the current status of nutrition; it is the indicator most responsive to short-term change and is used to identify children that need medical treatment for malnutrition. Since 2005 the percentage of wasted children has increased from 8.4% to 10.9%. The Integrated Food Security Phase Classification describes 10%-15% wasting¹⁷ as an Acute Food and Livelihood Crisis. It is estimated

¹⁶ The Health Information System (HIS) of the Ministry of Health (MoH) does not collect regular nutrition data. Acute watery diarrhea data is available from Communicable Disease Control Department of MoH but was not received for this bulletin.

¹⁷ Additional indicators are required to definitively classify; a full description is available at <http://www.ipcinfo.org/>

that the annual incidence of severe wasting is 68,653 cases¹⁸. Currently, 2% of these cases are receiving treatment. 2010 is the first year that urban areas appear to be more affected by wasting than rural areas (Figure 13).

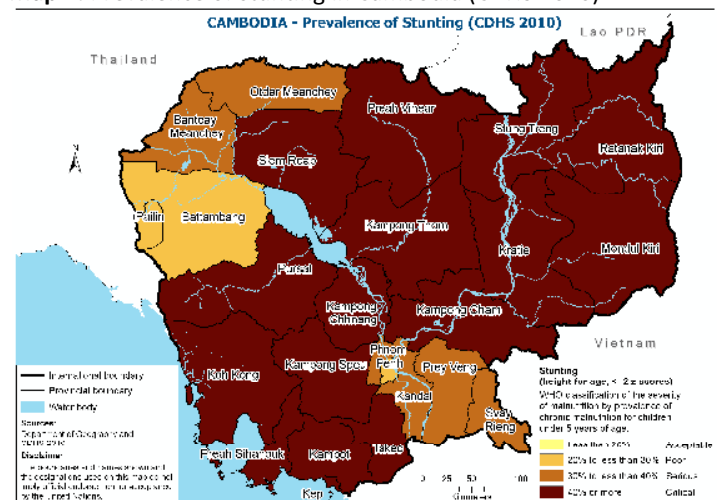
Figure 13: Percentage of under-5 children wasted by residence from 2008-2010



Source: National Institute of Statistics

Stunting (height-for-age) is a measurement that is most sensitive to sustained, or chronic, nutritional deprivation. CDHS 2010 shows that this indicator is no longer improving; the level of stunting is stagnant at 40%. The percentage of stunted children is 16 times higher than the level expected in a healthy population. Stunting is common throughout the country (Map 2).

Map 2: Prevalence of stunting in Cambodia (CDHS 2010)



Nutritional status of women – Micronutrient deficiency

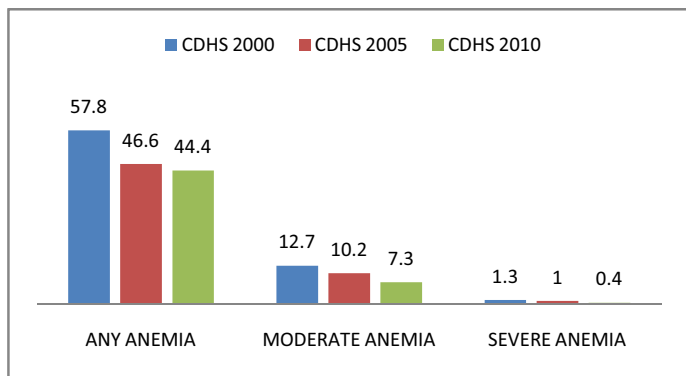
Not all malnutrition is visible. Deficiencies in vitamins and minerals can lead to impaired growth, increased morbidity and mortality, and lower productivity. In 2010 44.4% of women were anemic (Figure 14). Anemia puts a woman at higher risk for mortality during childbirth and it is estimated that one-third of anemia in Cambodia is caused by iron deficiency. Iron deficiency

¹⁸ Incidence = total population (13,395,682) * % of children under 5 (.1025) * prevalence of SAM (.025) * annual incidence multiplying factor (2.0)

is typically related to inadequate intake of high-value food items such as meat.

From 2000 to 2010 there has been a reduction of anemia among women age 15-49. However, this progress appears to be slowing down. There appears to be a shift away from severe deficiency which is likely caused by increased consumption of meat.

Figure 14: Percentage of Cambodian women age 15-49 with anemia from 2000-2010



Source: National Institute of Statistics