World Food Crisis (Part I: The Good News)

By ACSH Staff — August 25, 2008

In describing the current world food situation, let me first give the good news: the long-term transformations that have brought us to the present.

The real price of raw materials and other commodities has been on an overall downward trend for roughly 250 years, and the real price of food has experienced the same general downward trend for the last 150 years. The Green Revolution accelerated these trends over the last half century so that by early this century, the real price of rice was about 40% of its 1960 price and the real price of wheat was roughly 50% of its mid-century price (these trends are nicely illustrated in a graph [1] on the BBC website). Every major study of the so-called Green Revolution in agricultural technology has shown that the beneficiaries have been first the urban poor followed by the small subsistence farmers. The larger farmers who depend on the sale of their crops have had the much larger yields partially offset by the decline in price.

From 1960 to 2000, world population doubled while grain production increased 270%, providing a 30 to 35% increase in per capita food production. Instead of widely predicted famine, the daily caloric consumption in the developing countries increased substantially. These increases were achieved with only a 4% increase in land under cultivation for grains and an overall 7% increase in land under cultivation.

In 1960, roughly 50% of the world's population -- or circa 1.5 billion people were -- in poverty and hunger. Today, using the same criteria, roughly 860 million of the Earth's 6.4 billion people are in poverty and hunger or about 12 to 13%. In other words both the absolute and relative numbers in poverty have fallen.

In addition, there was a horticultural revolution so that the percentage of land under cultivation to fruits and vegetables tripled over the last 40 years. Since 1980, in developing countries, fruit production has been increasing at 3.6% a year while vegetable production has been increasing at 5.5% a year. In fact, contrary to popular mythology, the Green Revolution has not been based on monoculture as increases in grain yields has allowed land to be taken out of cultivation for grains and put into horticultural production. In most all Asian countries, percentage of land under cultivation for the primary grains has been falling and not rising. This is also true of the wheat growing countries of Latin America and elsewhere that have benefited from the Green Revolution.

Many falsely blame using coarse grains for meat production as a cause of the current crisis -- while denying the possibility that there might be multiple causes, or that a desirable change, such as increased fruit and vegetable production, could also have an adverse effect. The problems with the blame-meat-production argument are legion and too many to discuss here, but it should be mentioned that much of the world's meat supply is produced on pasture land that has few if any other uses. Using the weight ratios of feed to meat is extremely simplistic and misleading, ignoring
the greater caloric and nutritional density of meat over coarse grains.

In fact, according to FAO data, there is only about a 1.4 to 1 ratio of protein in the feed to the animal protein it produces, and the animal protein is of much higher quality (Dennis T. Avery, 2002, The Most Sustainable Farming in History Gives The World Its Finest Food Choices, Center for Global Food Issues, Hudson Institute). The high yielding coarse grains that feed cattle also feed chickens that produce eggs and dairy cows whose milk produces cheese and yogurt in addition to the milk itself.

**Booming Yields**

There has even been more spectacular growth in the production of chickens (close to a five-fold increase in the last half century), eggs, beef, milk, and pork. Aquaculture has been increasing at better than 10% a year since the mid 1980s.

The increase in horticulture and aquaculture in developing countries has had a two-fold effect. First, in most Asian countries, it has led to a substantial increase in local consumption and a more balanced diet. It has also provided badly needed exports for developing countries, a much higher return on land under cultivation, and higher wage income for off-farm labor in poor countries. The evidence for the improved nutrition is obvious. Along with interventions such as oral rehydration, vitamin A fortification, immunization, and antibiotics, improved nutrition has contributed to longer life expectancies and declining infant and child death. Life expectancy in developing countries has doubled over the last century, while infant and child mortality has fallen by two thirds over the same time period. There have been major increases in many parts of the developing world, particularly Asia, in average height from generation to generation, which is considered a major indicator of improvements in health and nutrition.

**The Outcome for Humans**

The outcome of these changes has meant that over 80% of the world's population receives over 2200 calories per day. Compare this to England on the eve of the industrial revolution, where the average was about 1750 calories per day, barely enough for basal metabolic activity. (According to FAO data, for China, it is 2940 Calories per day average.) Before the recent run-up in food prices, the real price of rice was 40% of what it was in 1960, while the real price of wheat was about 50% of the 1960 price. If the coarse grains are included, the real price of grains constituting about two thirds of the global daily caloric consumption fell by about 75%.

For the first time since these statistics have been kept, child deaths in 2006 were fewer than 10 million (9.7 million to be exact), having fallen from roughly 20 million in 1960 when the world population was less than half of what it is today. This is also reflected in population growth. The doubling of population occurred when decade-to-decade global birth rates were falling at rates previously unattained in human history. Globally, population grew because people were living longer -- and though they were having fewer children, more of them were surviving.

One can see why I have been an optimist! But tomorrow, I'll address the bad news.
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