



WEEKLY EPIDEMIOLOGICAL REPORT

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Global Food Crisis - Causes and Effects

During the latter part of 2007 and early 2008 the world has experienced a global food crisis. This was not purely due to short-term reasons and there were several causes which were building up over time.

It is expected that the current food crisis would last for at least two years before coming to an equilibrium. The impact of the crisis would be slowing down of economic growth, increased poverty, malnutrition and income inequalities.

Short-term and long-term measures are necessary to overcome the current crisis as well as to reverse the damage already caused. However, countries with vulnerable economies should take well calculated measures not to have rebound effects.

Since the beginning of the new millennium there was the concern of food scarcity and hunger. According to World Food Organization, 792 million people in 98 developing countries were not getting adequate food to lead normal, healthy and active lives. War, lack of investment for sustainable long-term productivity growth and poverty reduction, and lack of agricultural research for improvement of agricultural production were among most important causes for this food inadequacy.

The food crisis experienced since latter part of 2007 was reflected by a sharp drop in food availability and increase in food prices. Mainly affected were the prices of grains while the effect on other food commodities was to a much lesser extent. It is very likely that the observed increase of food prices is to persist further and it will be going to stabilise only after 2009. Although the current food crisis appeared seems almost suddenly, there were signs of declining food productivity and food production for which the world as a whole has failed to respond timely. According to the World

Bank, the wheat prices has increased by 181% and global food prices by 83% over the past 36 months leading up to February 2008. During this period the price of rice in Bangladesh and Cambodia was doubled. In Afghanistan it has increased by 70%, in Sri Lanka by 55%, and 40% in the Philippines. The domestic wheat price has increased 36-100% in Bangladesh, Mongolia, Pakistan, Kyrgyz, Tajikistan and Sri Lanka. The prices of vegetable oils, soy beans, meat products and fish also have been increased along with the cereal prices.

Causes for global food crisis

The growing world population and changing demographics are among reasons for the current food crisis. With an annual growth rate of 1.1%, the world population in 2007 was 6.6 billion. This growth has continuously adding more mouths to feed. The other important contributing factor is the rapid growth of the urban population. According to the present estimates, more than 50% of the world population or 3.3 billion people are living in urban areas and this will further increase up to 5 billion by 2030 where 80% of urban population will be in developing countries. Migration of those engaged in agriculture to the urban cities will have a negative impact on food production. There will be lesser food production and increased demand with escalation of food prices and more people will depend on a lesser number of people engaged in agriculture.

Witnessing a strong economic growth in some developing countries during last two decades also has been attributed for the current food crisis. Especially in China and India there is a continuous economic growth which has changed the food

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consumption pattern of people. There is a higher demand for foods such as dairy products and meat. Corn and soya meal has been used in large quantities in poultry. This makes diversion of grain available for human consumption for livestock feed. The conversion rate is poor as 7 kg of grain is necessary to produce one kg of meat.

Diversion of food grain was not only for animal feed. It also has been increasingly used for the production of bio-fuels. Concern over depleting fuel reserves, increasing fuel price and impact of use of petroleum products on the environment has prompted many countries to produce bio fuels. In some countries there is a trend to use lands to grow fast growing crops as an input for production of dendro power which has caused a depletion of lands used for food production.

There was a stagnation of petroleum oil production by Oil Producing and Exporting Countries (OPEC) and reduction in oil production by Non-OPEC countries over past several years which was the cause for increased oil prices. This has increased the price of fertilizer and other petroleum based agricultural products as well as the transport cost resulting in the increased food prices. Due to unaffordability of fertilizer and other inputs food production also has reduced worsening the condition further.

In the event of global physical resources such as land, irrigation water and non-renewable energy resources, it is essential to invest in research to find ways in increasing agricultural productivity. In recent times genetic engineering has aided in development of new food varieties, with many favourable characteristics. This include, pest resistance, increased yield, less water requirement, tolerance to adverse climatic conditions etc. Although many of the developed countries could gain their benefit, not all developing countries had an equal benefit. One reason was the increased resistance to GM foods. There are justifiable reasons for such resistance for example some of GM food varieties had an adverse effect on traditional and indigenous varieties with the threat of extinction. Often these countries have to solely be depended on developed countries for seed requirements.

To overcome these drawbacks developing countries have to develop their own research capacity with a local identity. However, the commitment from state sector for research and development is so low, that there were hardly any improvement can be observed in most of developing countries.

Over the past couple of years the world is experiencing adverse climatic changes which is unfavourable for agriculture. While long spells of drought were experienced at one end, at the other end heavy rainfall and storms with floods destroyed cultivations. Reduced production and increased demand in the local market has prompted some governments to impose restrictions on food exports as a short-term remedial measure to price escalations. However, this has made the condition worse for those countries where mainly or largely depended on food imports for local consumption.

Impacts of global food crisis

The impact of this food crisis on countries would be enormous. Developing countries are the worst affected. The increase of food and oil prices will result in increased inflation rates while lowering the GDP in those countries. Due to increased expenses for food and also due to current global economic crisis industrial countries will restrict importation of consumable items such as garments. This will reduce the purchasing power of developing countries at all levels.

With the increase of fertilizer and fuel prices, escalation of food prices is also unavoidable. To protect the consumer, there will be price restrictions imposed on food items as well subsidies for fuel price. In addition, subsidies for seed, fertilizer and other inputs, together will be a large burden on the already strained economies of these countries.

At the household level, the impact will be very challenging. In many developing countries, the poorest 20% of the population spend more than 60% of their income to purchase food and over 70% is for grain purchases. This means that they are already at a risk of suboptimal food consumption. The household food consumption will be further lowered and the first restriction would be on micronutrient rich food since they cost the most. Therefore, these populations are initially at risk of micronutrient deficiency and then of protein and calories deficiency.

Studies have shown that increase of food price, results in increase in inequality among poorest and richest. Studies on poverty also has shown that a 10% increase in the cost of living would increase poverty headcounts 6% nationally and 10% in the estates.

The way forward

Upon analysis of the current situation there are several medium and long term measures suggested to ease out the global food crisis. In the medium term, promotion of existing technology and new seed varieties are suggested. In the long term increased productivity has to be targeted through improved technology. To have a successful outcome, a public-private partnership especially in capital investment will be necessary. There are five main areas where heavy investments are needed. They are infrastructure development, research and development, provision of market information, making available affordable inputs such as seed, fertilizer, pesticides and credit, and reducing distortions in pricing and trade policies. Being agriculture is now a multinational enterprise, it is very much essential to choose correct strategies to preserve the national identity and to strengthen the national economy.

Source

Abeyratne F (2008) Global Food Crisis: Causes and Effects at Global Level. *Economic Review*, 34 (7&8):2-5.

This article is compiled by Dr Sudath Samaraweera, Consultant Community Physician.

Table 1: Vaccine-preventable Diseases & AFP

07th February 13th February 2009 (07th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	00	00	00	00	00	00	01	08	08	00.0%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	00	00	00	00	00	00	00	00	00	15	11	+36.4%
Tetanus	00	00	00	00	00	01	00	00	00	01	00	05	05	00.0%
Whooping Cough	00	00	00	00	00	00	01 PO=1	00	00	01	00	12	04	+200.0%
Tuberculosis	63	30	36	00	08	00	05	03	07	177	148	1148	1345	-14.6%

Table 2: Newly Introduced Notifiable Disease

07th February 13th February 2009 (07th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	41	11	21	26	09	11	04	06	32	161	131	1081	690	+56.7%
Meningitis	02 CB=1 KL=1	02 KD=1 NE=1	00	00	00	03 PU=1 KR=2	05 AP=3 PO=2	01 MO=1	04 RP=4	17	35	142	266	-46.6%
Mumps	04	12	04	00	01	06	02	01	07	37	32	265	276	-4.0%
Leishmaniasis	00	00	01 MT=1	00	00	00	00	00	01 RP=1	14	Not available*	50	Not available*	-

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
 DPDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matala, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Leishmaniasis is notifiable only after the General Circular No: 02/102/2008 issued on 23 September 2008.

Table 3: Laboratory Surveillance of Dengue Fever

07th February 13th February 2009 (07th Week)

Samples	Number tested	Number positive	Serotypes *				
			D1	D2	D3	D4	Negative
Number for current week	01	00	00	00	00	00	00
Total number to date in 2009	10	02	00	00	02	00	00

Sources: Genetic Laboratory, Asiri Surgical Hospital

* Not all positives are subjected to serotyping.
 NA= Not Available.

Table 4: Selected notifiable diseases reported by Medical Officers of Health

07th February 13th February 2009 (07th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	47	357	4	28	0	3	7	49	0	7	4	45	1	2	2	11	0	1	100
Gampaha	19	177	5	20	1	5	1	7	0	5	4	28	0	2	1	18	0	0	79
Kalutara	7	88	3	61	0	2	2	15	0	4	1	23	0	0	1	3	0	0	83
Kandy	32	306	4	61	0	0	1	3	0	0	0	39	2	19	0	10	0	0	88
Matale	8	94	3	18	0	0	0	8	0	2	9	89	1	2	0	1	0	0	75
Nuwara Eliya	2	15	6	44	0	0	7	42	0	20	1	11	2	7	2	7	0	0	92
Galle	8	16	1	29	0	2	0	0	2	2	5	30	0	1	1	4	0	0	100
Hambantota	6	31	1	18	0	5	1	1	1	4	1	10	1	11	0	3	0	0	100
Matara	11	128	8	55	0	2	0	4	0	3	2	29	5	38	0	0	0	0	94
Jaffna	0	3	0	18	0	3	0	28	0	18	0	0	0	48	0	2	0	1	13
Kilinochchi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mannar	0	2	1	08	0	0	6	46	0	0	0	0	0	0	1	4	0	0	50
Vavuniya	0	4	0	4	0	0	0	2	0	1	0	2	0	0	0	0	0	0	50
Mullaitivu	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Batticaloa	18	47	0	27	0	6	0	4	0	5	1	2	0	0	0	1	0	0	82
Ampara	5	13	0	4	0	0	1	4	0	0	1	3	0	0	0	3	0	0	71
Trincomalee	8	24	8	17	0	1	0	0	0	0	0	1	0	2	1	3	0	0	80
Kurunegala	6	129	3	30	0	3	0	7	0	1	0	20	4	35	2	10	0	2	84
Puttalam	2	20	1	28	0	5	0	16	0	0	0	9	1	12	0	2	0	1	89
Anuradhapura	1	9	1	14	0	1	0	1	0	2	3	45	1	9	0	3	0	0	74
Polonnaruwa	3	14	1	10	0	1	1	6	1	2	0	27	0	0	0	1	0	0	100
Badulla	3	16	3	55	0	2	1	11	0	13	1	20	3	16	4	46	0	0	93
Monaragala	0	5	0	10	0	0	0	6	1	2	1	5	2	17	0	9	0	0	100
Ratnapura	4	39	11	78	0	5	2	14	0	0	3	10	0	3	0	3	0	1	78
Kegalle	24	132	4	21	0	1	1	7	0	1	0	17	3	7	6	25	0	1	91
Kalmunai	8	52	0	35	0	1	0	5	0	0	0	2	0	1	1	2	0	0	77
SRI LANKA	222	1721	68	695	1	48	31	287	5	92	37	4671	2	232	22	171	0	7	82

Source: Weekly Returns of Communicable Diseases (WRCD). 0

*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

**Timely refers to returns received on or before 21 February, 2009 Total number of reporting units =311. Number of reporting units data provided for the current week: 254

A = Cases reported during the current week. B = Cumulative cases for the year.

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